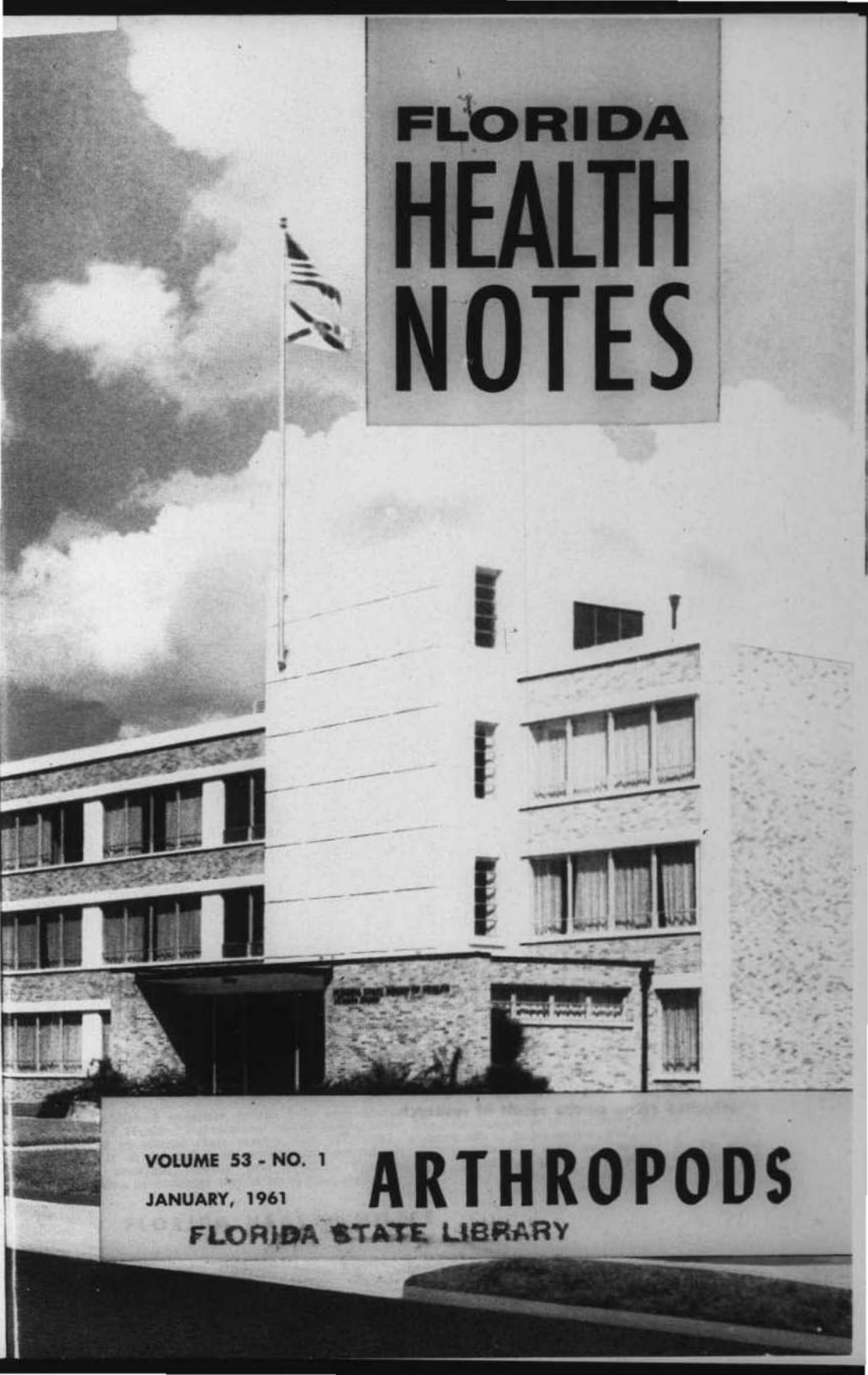


FLORIDA HEALTH NOTES

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ARTHROPODS

FLORIDA STATE LIBRARY



A scientist here identifies various species of mosquitoes under a modern microscope. Research is a vital part of the control of arthropods. How they breed, where they live, what they eat and what control measures are most effective come as the result of research.

ARTHROPODS

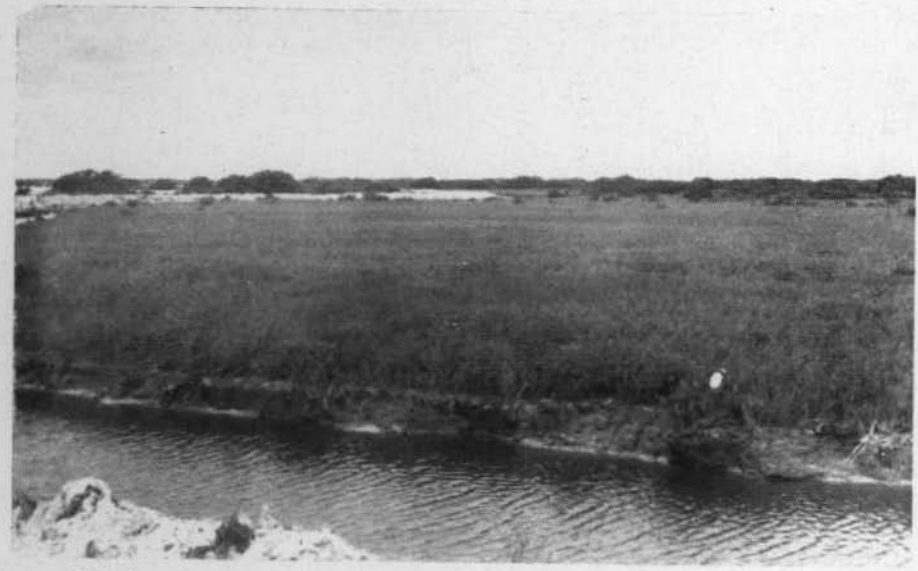


Did you slap at mosquitoes last summer while at the beach? Did your club have to call off a picnic because the mosquitoes were so bad? Have you had to buy one of those little screened portable rooms so you could enjoy the lakeside breeze while sitting on your lawn? Have your children's legs been covered with mosquito bites—some of which became infected? Have you ever been kept awake at night by buzzing mosquitos? Did your relatives from the North who came to spend a Florida summer vacation leave ahead of time because they could not enjoy the beaches—the "bugs" were too annoying?

If any of these things have ever happened to you, you will want to read this issue of *Florida Health Notes*. For in it we are going to talk about several different kinds of arthropods (which includes insects) some of which can transmit serious diseases and certainly do cause much discomfort, as well as striking blows at our state's economy. Principally, we will discuss *mosquitoes*, but will also talk about *blind mosquitoes, dog flies* and *sand flies*.

FLORIDA HEALTH NOTES

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This is a typical salt-marsh mosquito breeding area. The Florida coastline abounds with scenes as this.

FABULOUS FLORIDA

Florida has so much to recommend it. We know—for we live here. But there is a price we must pay for living in this semi-tropical land. The same conditions which produces sunshine and warmth, rainfall and cool ocean breezes, enjoyed by an ever-increasing population and millions of visitors to the state every year, also produce an environment that is favorable to the growth of many species of arthropods. These insects have, in the past, caused many deaths and a great deal of discomfort. We *must* find out, through research, how to control these little creatures so we can live without fear of insect bites. We want to be able to enjoy our great outdoors in peace. So let's first discuss that most dangerous and pestiferous of arthropods: mosquitoes.

MAN'S GREAT ENEMY

It can be said without fear of contradiction that mosquitoes have caused more deaths and discomfort than any other known insect in Florida. Accounts of life in Florida before the turn of the century relate times of panic and fright, including the wiping out of one small town on the Gulf Coast, Port St. Joe. The development of the state was retarded by devastating malaria, yellow fever and dengue epidemics. All of these diseases are spread by mosquitoes. A typical example was recorded in the Fernandina epidemic of 1877 when out of a population of 1632 some 1446 took sick with "fevers," probably yellow fever.



Sand, flies breed in sandy marshy areas such as this and are difficult to control. Their bite is very painful.

We can point with pride to the fact that the great scourge, malaria, has been eradicated, and that yellow and dengue fever no longer are among us, but there must be constant vigilance to see that they never do become a threat again. Therefore, these three diseases do not present any problem at the present.

But what about the *Encephalitides* (inflammation of the brain)? It is known that certain species of mosquitoes can transmit these diseases from one bird to another, from bird to man, and bird to horse. At the present time in Florida we know of four *Encephalitides*: Eastern encephalitis, Western encephalitis, St. Louis encephalitis, Venezuelan Equine encephalitis and three other closely related viruses which may cause human illness: Highlands-J, West Nile and Ilheus virus. Of these types, the Eastern encephalitis has proven to be the most virulent with a mortality rate of 65 to 75 per cent in humans. Some of the survivors are left paralyzed and with loss of their mental faculties. The great problem encountered with the *Encephalitides* lies in the inability to control the disease due to lack of exact knowledge of when to expect its spread. We do know that birds are carriers of these diseases from one state to another, as well as one continent to another.

Many kinds of birds, including pond birds, have been found to have the encephalitis virus in their blood stream. In 1959, in a survey conducted by the Rockefeller Foundation and Yale University in Highlands County, they found the blood of a purple grackle bird infected with the Easten encephalitis virus. They also found a collection of *Culex spp.*



Dog flies are found mostly along the northwestern Gulf coast beaches. Their eggs are laid in grasses like this and are best controlled by frequent spraying with DDT.

mosquitoes infected with the same type of virus. A blue jay in Highlands County was found infected with a new virus, which has been named Highlands-J. The common salt-marsh mosquito, *Aedes taeniorhynchus,* was found infected with Western encephalitis. This was the first confirmed report of this virus in Florida and subsequently the virus was isolated from the brain of a horse in Flagler County. The two common underwater root breeding mosquitoes, *Mansonia perturbans* and *indubitans,* as well as a swamp breeding mosquito, *Culiseta melanura,* were found infected with a virus which has yet to be identified. *Culex nigripalpus,* a typical ditch breeder, was also found infected with an unidentified virus strain in south Dade County.

The Rockefeller Foundation's survey of blood tests performed on Indians in the Big Cypress and Brighton Reservations revealed that in Big Cypress Reservation, 57 per cent of the Indians tested showed the presence of antibodies for Venezuelan Equine encephalitis, and 25 per cent for St. Louis encephalitis. The Indians in the Brighton Reservation showed 16 per cent positive for St. Louis and 7 per cent for Venezuelan Equine encephalitis. This means that these Indians were bitten in the past by mosquitoes carrying these diseases.

In 1959, in Pinellas County, there was an outbreak of what was believed to have been St. Louis encephalitis. There were 68 clinical (diagnosed by symptoms) cases and 23 laboratory confirmed cases. There was also one confirmed laboratory human case of Eastern encephalitis and one presumptive (probable) human case of Eastern encephalitis.



When mosquito eggs hatch they become larvae such as these. The larvae live in water until they reach the adult stage.

LET'S TAKE STOCK

There are many mosquito problems; in fact there are 67 different problems since there are 67 different species of mosquitoes, though all of them do not bite. But let's talk about some of the most common.

Salt-Marsh Mosquitoes: The state's long and low coast line is characterized by vast areas intermittently dry or flooded by tides or rain. Whether grown to grass as in north and west Florida, to salt scrub as in the middle coasts, or to mangrove trees as in subtropical south Florida, these 750,000 acres are the breeding areas of the salt-marsh mosquitoes, *Aedes taeniorhynchus* and *Aedes sollicitans*. These are migratory mosquitoes that at times travel up to 25 miles and more from their hatching place. Egg deposits frequently reach into millions per acre and the billions of mosquitoes taking wing a week or two after marsh floodings are the greatest obstacle to the enjoyment of Florida's ocean beaches. These mosquitoes hinder the development of many stretches of coast because they make life intolerable to resident and tourist alike. This problem brought into existence all the early "mosquito-control districts." (The first tax supported district was voted in by the people in Indian River County in 1926.) Salt-marsh mosquitoes are still today the major problem in most of the districts. The entire coastline of Florida is vulnerable to these salt-marsh mosquitoes but the problem is especially serious from about



This shows the mosquitoes as they change from pupa to adult and crawl from the water to dry their new wings on a nearby limb.

St. Augustine south to around the Florida Keys and up the Gulf Coast to Tampa Bay. The major annoyance season is April to November.

Flat-woods mosquitoes: Pine flat-woods and prairies together make up the most widespread type of terrain in Florida. These lands have a characteristically high water table in combination with innumerable low swales (depressions) and ponds which are alternately dry and flooded. These intermittent water areas, totalling millions of acres, are the natural breeding grounds of two mosquitoes, the glades mosquito, *Psorophora confinnis* and the large "gallinipper," *Psorophora ciliata*. Their long-lived eggs fill the ground depressions and they hatch after heavy rains. Rainfall patterns determine the magnitude of hatchings; in some years hatchings are infrequent, with only one big brood, while in other years the heavy rains are spaced just right to pyramid one generation upon another, resulting shortly in huge adult mosquito production. Although relatively short-lived, these mosquitoes disperse widely and menace both the human population and livestock herds. Land drainage and pasture improvement have changed the land considerably, but the frequent ditches and flat-woods ponds which periodically dry up (and again fill with water) have intensified the production of these mosquitoes over much of this area. The problem is severe in the broad strips of flat lowlands separating the coastal areas from the central highland areas of the state, and it

becomes most acute where the rainfall is most seasonal, in south Florida. Coastal communities, especially in metropolitan areas, can expand in many cases only toward the interior. In nearly all cases this results in the human population invading deeper and deeper into the domain of the flat-woods mosquitoes which only a few years ago were killing livestock as they moved in hordes over the then uninhabited "back-country."

Fresh-water marsh mosquitoes: Florida originally had a vast acreage of marshland and much of it still remains. Sawgrass, pickerel-weed, arrowhead and cattail dominate these marshes but a great variety of other aquatic herbs are also found. The largest Florida marshes are sawgrass plains: the Everglades, the headwaters of the St. John's River, the Oklawaha River marshes, and the great marshes and sloughs of south central Florida. A more varied flora (plant life) is characteristic of the smaller but numerous marshes adjoining lakes and rivers throughout central and south central Florida. One of the most important mosquitoes produced in all these marshes is *Mansonia perturbans*. The far-ranging adults readily invade homes and are implicated in disease transmission. Their larvae are unique in attaching themselves by their breathing-tubes to the roots of marsh plants, thus getting the needed air through the tissues of these plants rather than at the water surface as all other mosquitoes do. This mosquito is all over Florida but constitutes a particularly acute problem in the central Lakes region. In south Florida, it is

Shortly after emerging from the water the adults swarm from the mosquito breeding pool (to your house?)





Within the walls of the Entomological Research Center at Vero Beach are carried on extensive experiments to learn about arthropods, their habits and control.

joined by two close relatives, *Mansonia indubitans* and *Mansonia titillans*, who are usually found close by the imported plant pest, water lettuce. All these *Mansonia* mosquitoes are potential carriers (vectors) of disease. The deeper sections of the marshes produce species of *Anopheles* and *Culex* mosquitoes, while the marsh edges which alternately dry and flood produce species of *Aedes* and *Psorophora* mosquitoes.

The remote marshes may not be such a problem but those near human habitations are. The marshes impounded for flood control in South Florida pose a particular problem because suburban developments are advancing right to their borders. Such permanent and shallow waters rapidly become vegetated and, thus, ideal breeding grounds for the *Mansonia, Culex* and *Anopheles* mosquitoes which are potential disease vectors. Marshes reclaimed for agriculture also pose a problem. Peat marshes converted to field crops often become infested with plant nematodes. The current control is to flood the fields when fallow—a practice resulting in heavy production of *Culex nigripalpus*, an encephalitis vector in addition to being a vigorous biter.



Mosquitoes may be caught in light traps similar to this one. They are then identified as to species to determine the numbers present.

Swamp mosquitoes: Wooded swamps are a prominent feature of the Florida landscape, either as solid and often extensive areas or as fringes about lakes. Cypress swamps, with typically acid waters, produce *Anopheles crucians* and other mosquitoes which are not presently known to be a problem. The basic or alkaline water swamps of central and north Florida, however, are problems in that they produce the malaria mosquito, *Anopheles quadrimaculatus*, and the enzootic (bird) vector of Eastern encephalitis, *Culiseta melanura*. Malaria no longer exists in Florida, but the EEE virus is still present. These swamps frequently contain extensive growths of the host plants of *Mansonia* mosquitoes and are in this respect as much a problem as the fresh-water marshes. Swamp edges are particularly productive of a variety of mosquitoes, and when polluted can become serious *Culex* problem areas.

Woodland mosquitoes: The broad-leaved woodlands and hammocks of Florida contain intermittently flooded areas along river bottomlands and numerous low pockets and swales elsewhere that temporarily hold rainwater. These are the breeding terrain of a great variety of *Aedes* and *Psorophora* mosquitos, all laying their eggs in moist low spots between floodings. In north and west Florida the river flood-plain mosquitoes, *Aedes vexans* and *Aedes sticticus*, are one of the west problems as well as woodland pool mosquitoes, the worst offenders being *Psorophora ferox*, *Aedes atlanticus* and *Aedes infirmatus*.

Ditch mosquitoes: Open ditches, canals and swales are a necessary accompaniment to man's occupation of flat-land as most of Florida happens to be. Along highways, in urban areas, and through much of the rural areas these are for drainage, but on agricultural lands, improved pastures, citrus groves and field-crop areas, they may be employed alternately for drainage and irrigation. The water in all these drainways is at times moving and as often still. During the long months of stagnation these waterways become the equivalent of ponds and their mosquito production is accordingly similar: *Culex* and *Anopheles* mosquitoes, especially *Culex nigripalpus* and *Anopheles crucians*. In many cases the malaria mosquito, *Anopheles quadrimaculatus*, and the house mosquito *Culex quinquefasciatus* also breed heavily, the latter especially if the waters are polluted. If the drainways are deep and broad, with heavy plant growth, *Mansonia* mosquitoes may breed heavily. On the other hand if they periodically dry up, the egg deposit on their grassy sides or bottoms may produce great numbers of *Psorophora* and *Aedes* mosquitoes



Mosquitoes lay their eggs on damp soil. Water flooding the area hatches them. When the water recedes more eggs are laid and the cycle continues. Impounding water behind dykes makes the area unsuitable for egg laying.

at every flooding. Whatever mosquito species they produce locally or seasonally, and whether in rural or urban areas, ditches and canals pose a simple problem: they should be kept clean of vegetation and pollution. This calls for proper construction, with emphasis on sufficient fall, clean slopes, proper culvert elevations and adequate maintenance (periodic cleaning and weed control). These responsibilities rest not only with mosquito control districts but, to a greater extent, with drainage, irrigation, flood-control and highway authorities.

Domestic mosquitoes: Florida's climate allows year-round breeding of those domestic mosquitoes which develop readily in any water accumulations around homes. *Aedes aegypti,* the yellow fever mosquito, breeds in cans, bottles, old tires, flower vases, cisterns, fish ponds, roof gutters and other water containers. *Culex quinquefasciatus,* the house mosquito, breeds in these containers but shows a preference for more foul waters in both containers and stagnant ground waters in ponds, ditches, catch basins, sewage effluents, industrial effluents and so on. These two mosquitoes do not usually fly far from their breeding place and they like to invade homes. Their prolonged association with man renders them particularly apt to carry disease. The yellow fever virus, like the malaria protozoan, is not found now in Florida but as long as it exists in central America, in Mexico or elsewhere in the world, *Aedes aegypti* is a poten-

tial health hazard in Florida's larger port cities. This same mosquito also acts as vector for dengue and other viruses as well as filariasis in other parts of the world. The amount of air travel between Florida and Latin America underscores the possibility of introducing disease into our state, and therefore the great necessity to control or eradicate domestic mosquitoes. *Culex quinquefasciatus* is present in every community in Florida. In addition to being an important house pest, it is a known vector of St. Louis encephalitis; in other parts of the world of human filariasis. The problem of domestic mosquitoes is essentially a sanitation problem, with home owners, industries and public agencies sharing responsibilities for control.

Miscellaneous mosquitoes: In addition to the mosquitoes given special mention above, there are many other mosquitoes which may affect man in one way or another. Thus the tree-hole breeders, especially *Aedes triseriatus*, can give intense local annoyance, as can also the air-plant breeders, *Wyeomyia vanduzeei* and *Wyeomyia mitchelli*. And the role of various mosquitoes in the transmission of many diseases of livestock, poultry and wild mammals and birds is just now beginning to be understood.

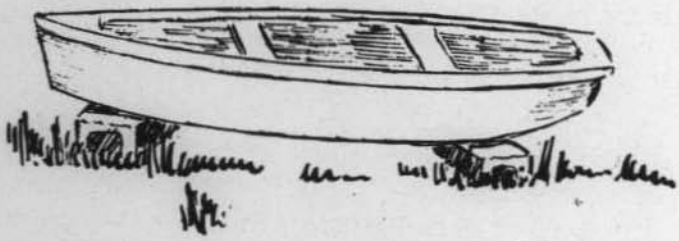
METHODS OF CONTROL

LAND AND WATER MANAGEMENT

Drainage: It has been possible in the coastal areas which have tidal fluctuation to construct ditches from ten to twelve feet wide in the mangrove swamps and salt-marsh swales. Since 1953 untold thousands of acres of salt-marsh mosquito breeding areas have thus been eliminated —in fact in some counties more than 95 per cent. The minnow access ditches must be kept clean or breeding will once again begin. Real estate development of these areas also increases breeding by covering up and blocking sections of the ditches.

The elimination of fresh water mosquito breeding by ditching is not always possible, due to lack of fall to a proper outlet. For example, in flat areas it is not possible to move the water before a brood of mosquitoes will emerge. Under these conditions the ditches can in themselves become potential breeding areas immediately after filling with water following dry periods when the ditches are laden with the eggs of flood water species, such as the glades mosquitoes. They become potential breeding places for *Culex, Anopheles* and *Mansonia* when they remain full of water and vegetation during years of heavy rainfall, particularly in areas with a high water table.

TEXT MAY BE LOST DUE TO TIGHT BINDING.





HOW TO GROW YOU

You can raise your own mosqui debris capable of holding small a premises. Keep plenty of bottles, tin stopped up gutters, rain barrels a guarantee you will have the finest hood and you can walk out in your to your visitors! ! !









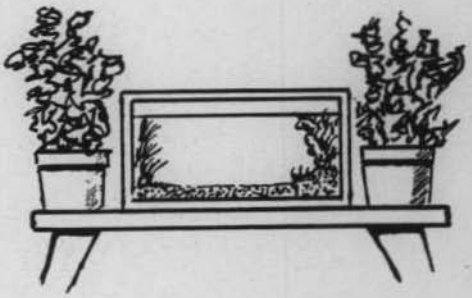


OWN MOSQUITOES

es at home by allowing rubbish and
ounts of water to accumulate on the
ans, bird baths, boats, old bath tubs,
d the like around your house. We
rop of mosquitoes in your neighbor-
yard any evening and show them off









This dragline is cutting a canal to allow minnows from a nearby stream to gain access to a mosquito breeding area. The minnows help control the pests by eating larvae. Draglines also cut ditches to drain breeding areas or flood them with water.

Impounding Water Over Breeding Areas: It is possible to control species of flood water mosquitoes by keeping water over designated areas at all times. This is true for the salt-marsh and glades mosquito as well as other species which lay their eggs on damp soil where the eggs must dry before they can hatch when subsequently covered with water.

The difficulty with impoundments is the fact that many other species of mosquitoes will develop in them if the vegetation is not removed or kept under control. In the coastal areas, especially on the east coast of Florida, it has been possible to control several thousand acres of salt-marsh mosquito breeding area as well as sand fly breeding by keeping the areas covered with water. However, in order to control certain fresh-water mosquito species breeding it has been necessary to allow salt water to flow into the impoundments through flood gates during fall high tide periods. Impoundments also increases the area potential for ducks, fish and other wildlife.

Filling of Breeding Areas: The most permanent of all types of mosquito control is to completely fill up the breeding areas with material dredged in or fill placed by dragline, bulldozer or truck. The difficulty is that this method of control is too expensive where large areas are involved. It is, however, the method of choice in small mosquito breeding areas, which are found in populated areas.

DESTROYING THE IMMATURE STAGES

The Entomological Research Center has developed a Paris green pellet which when applied by airplane or by ground equipment will control the larval stage of most species of mosquitoes. The larval instars can also

be killed by the application of a mixture of fuel oil and gasoline to the breeding areas. The State Board of Health does not advocate the application of any of the organic insecticides (such as DDT and Malathion) as larvicides due to their destruction of fish and certain beneficial arthropods. Also mosquitoes soon build up resistance when organic insecticides are used in the breeding areas.

Paris green pellets are effective in destroying the salt-marsh and glades mosquito larvae, but it would be too expensive, at approximately $1.50 an acre, to consider controlling the vast areas of breeding in the entire state other than the areas in close proximity to the populated areas.

DESTRUCTION OF ADULT MOSQUITOES

One of the most important phases of mosquito control in the state is the control of the adult mosquito, although this is not considered to be the best way to control mosquitoes. They should be destroyed in their breeding place and not allowed to reach maturity. But unfortunately, in Florida, it is impossible to destroy all mosquitoes because of our vast breeding areas. However, we continue to apply adulticides to the populated area to destroy adult mosquitoes in order to protect our citizens and visitors from encephalitis, as well as to promote their comfort. The applica-

This aerial view shows ditching in a breeding area on the Florida west coast. The spoils (piles of dirt) are placed in staggered piles to prevent breeding areas.





The airplane is used to spread insecticides over large areas to kill arthropods.

tion of Malathion by a fog machine has been found to be the most effective and economical means of control with 90 to 100 per cent reduction of adult mosquitoes when conditions are favorable for fogging operations.

YOUR RESPONSIBILITY

Receptacle Breeding: Many people are careless and allow tin cans, bottles, tubs, boats, old tires, bird baths, gutters, fish ponds, material in junk yards and other receptacles to hold water and breed domestic mosquitoes.

Pollution Breeding: Many industries dump organic wastes into swamps, ditches and lakes which become potential breeding places for domestic mosquito breeding. It should be the responsibility of the individual to control such situations by treating and placing the waste materials in oxidation ponds before allowing the material to enter other bodies of water.

BLIND MOSQUITOES

These are non-biting midges of the family *Chironomidae* which occur throughout the world in great variety, inhabiting every conceivable type of water accumulation from small containers, watering troughs, fountains, ditches, ponds, to the largest rivers and deepest lakes. The worm-like larvae live in the bottom muds and sands, often within net tubes which

they spin, in the tissues of aquatic plants, in algamats and in other special breeding places. The adults are weak-flying midges which live from one to four or five days, just long enough to lay their jelly-mass eggs. They usually remain very close to the breeding waters. The great majority of these chironomid midges are harmless insects which because of their great abundance, (especially in lakes), play a major role in the diet of fish and other large animals. Waters which are out of "biological balance" may overproduce these midges, rendering them pests. This happens with several Florida species but most frequently with *Glyptotendipes paripes*. The usual cause of this biological imbalance is enrichment of the lakes with sewage plant effluents, commercial fertilizer run-offs and other organic and inorganic materials. Around heavily-producing lakes, ponds and rivers great hordes of these midges may emerge night after night, blanketing the landscape, staining paints on buildings, discoloring laundry hung out to dry, disrupting outdoor activities and in other ways creating real nuisances to all waterfront homes and businesses. The problem is especially serious about urban lakes in central and north Florida. It is a problem linked to water pollution and the disposal of water even when

Truck fogging is used in residential areas. This type of fogging is used primarily to kill adult arthropods.



sanitarily treated. The only effective method of control presently known is the use of adulticides. They are resistant to all known larvicides.

DOG FLIES

The stable-fly, *Stomoxys calcitrans,* is a near-relative of the housefly but unlike it, is a blood sucker. It occurs throughout the world as one of the worst pests of livestock. It breeds in moist, organic wastes which also contain decaying plant material, such as composts. In west Florida it breeds heavily in the deposits of baygrasses thrown up on the shores of bays (Choctawhatchee, St. Andrew's etc.). The flies, known locally as "dog flies," are found on beaches where they are a severe daytime annoyance. They are persistent and fierce biters, driving people indoors or away from the beaches. Without control they can ruin the beach tourist business from St. Marks to Pensacola, especially since they become most abundant at the height of the local tourist season, usually late summer and early fall. Control is obtained by the weekly spraying of the grass deposits with DDT.

SAND FLIES

Biting midges of the genus *Culicoides* are called "sand flies" in Florida. They are tiny flies which bite severely, many people reporting them to be more painful than mosquitoes. There are 29 species in Florida, the majority being fresh-water species, breeding in a variety of locations. The larvae of all species are very small threadlike worms found, for the most part, in saturated soil where the water table is just at the ground surface, as in seepage areas. A few species breed in tree holes. None of the fresh-water species fly far from the breeding site. They often are serious local problems with no economical method of control other than to impound water over the breeding areas.

The three important salt-marsh sand flies, *Culicoides furens, melleus* and *canithorax,* will breed in the marsh flats when the water table stays at the surface but are found more often along the water's edge in tide channels, bays, canals, and ditches. Several broods are commonly produced per year. One or more species plague the entire coast line of Florida and the resulting annoyance in many areas approaches or exceeds that caused by salt-marsh mosquitoes. These sand flies stay mostly within a few hundred yards of the marsh, but any person getting too near them, knows it. Their year-round production makes even the winter tourists vulnerable to their attacks. They are a deterrent to economic development in several coastal areas and are on all coasts a constant threat to the tourist industry. The larvae are resistant to all known larvicides and adulticides are generally ineffective.



A swampy lowland which has been filled by dredging. Besides eliminating mosquito and sandfly breeding areas this also creates useable land that was not previously fit for use.

The greatest single factor responsible for Florida's rapid development has been successful mosquito control. The question now confronting the state is: will we be able to maintain our present gains with the methods of mosquito control at our command today—or must we direct our effort to finding more effective and economical methods? It is imperative that we prepare to meet the problem created by the alarming resistance to chemicals which mosquitoes and other arthropods of public health importance are presently showing. This can be done only through well organized and carefully conducted *research*.

Florida is fortunate in having an Entomological Research Center at Vero Beach which is an arm of the State Board of Health's Bureau of Entomology. Outstanding research by noted scientists is helping to solve many of the state's public health arthropod problems. Too, the Center is attracting scientists and public health workers from all over the world. The U. S. Public Health Service is contributing substantial funds through seven research grants. We must continue to seek out the best minds available to help us with our arthropod problems and to see that they have proper facilities in which to work, and salaries that compete with those paid by institutions elsewhere in the country.



Sportsmen are happy to see impoundments created, for the ducks and other waterfowl which find food and shelter in them.

Our arthropod problems will increase with the establishment of more industries, which bring more people to Florida. For these industries and people must be housed and where will these buildings be located? Many of them will be close to the great natural and artificially impounded fresh-water mosquito breeding areas. And this will increase the possibility of hazardous living conditions.

More consideration should be given to better methods of flood control work and its relationship to mosquito breeding and control.

The construction of drainage ditches and canals for road construction and subdivision development, unless properly planned and maintained, can produce tremendous broods of pest and disease-carrying mosquitoes. The improper preparation of land for cattle pastures and drainage for agricultural purposes as well as the impounding of agricultural lands for nematode control will produce terrific hordes of mosquitoes near populated areas.

All of our progress in building expansion is leading to an increase in mosquito production in the ditches and canals of Florida's flat-lands where they are not properly maintained. Certain industries produce specific types of organic wastes which create, when improperly placed, vast areas for mosquito and blind mosquito production. The construction of sewage treatment plants and the resultant effluent from the plants produces an excellent media (when allowed to flow into streams, swamps and lakes) for the prolific breeding of disease-carrying mosquitoes.

The many old and new arthropod problems will require more *research* to provide new methods of control. The use of the sterilized male technique, for instance, which was employed so effectively against screw worms in Florida will receive more attention. So will chemicals to produce sterility or bring about other changes. There must be more knowledge of insects' natural history in order to find the weak links in which to bring about the attack for their destruction.

An epidemic of Eastern or Western encephalitis could cost the state untold millions. Apart from the humanitarian aspect, the tourists would stay away in droves. Our economy would be crippled. With encephalitis present in our communities, with malaria, yellow and dengue fevers only a few short hours away in nearby countries and with mosquito carriers of these diseases still present in great numbers, we *must* develop better means of control. And you, as a citizen, have a great stake in the solution of these problems.



These hunters are happy to take home their ducks bagged from an impounded area.

YOU DON'T HAVE TO LEARN THEM BY HEART!

We thought a long time before we included the scientific names of all the mosquitoes that are discussed herein. But our experts pointed out mosquito families are just as distinctive in their way as human families. And as they pose different control problems, they must be identified as different species. We doubt if you will ever use these names loosely in conversation—if you are like us, you won't be able to pronounce them!

LEARN A FEW NEW ONES

You won't learn any younger—a few new words that are used in this issue of *Health Notes*. Our experts tell us there just isn't any way to simplify such words as:

Adulticides	chemicals which kill adult insects
Algamats	a plant of the algae group similar to seaweed
Arthropods	insects and other small animals
Catch basin	junction or box in storm drain to collect sand
Effluent	the treated sewage flowing from a treatment plant
Enzootic	afflicting animals
Filariasis	a parasite which passes its life cycle in the bodies of human beings, frequently causing elephantiasis
Floodplain	flat-land flooded by river overflow or heavy rainfall
Flora	flowers, vegetation
Gradient	a rate of ascent or descent, a sloping area
Hammock, Hummock	an area of woods and vegetation
Host	affording subsistence or lodging to a parasite
Impoundment	area filled with water held back by man-made dikes
Larvae, Larval	pertaining to an immature stage of insect life
Larvicides	chemicals which kill larvae
Mangrow	trees growing in salt water
Nematodes	a species of worms which frequently invade plant life
Oxidation Ponds	earthen ponds constructed to receive sewage effluent
Protozoan	micro-organism found in water, plants and man
Sloughs	depressions caused usually by ebb and flow of tides
Swales	slight depressions or valleys
Terrain	the ground on which one stands
Vector	bearer or carrier
Water Table	underground water level



Fishing increases where waters are protected by impoundments. Thus the arthropod control program has multiple benefits.

MOSQUITO REPELLANTS

Anyone who goes outdoors during the summer, on a boating or fishing trip, on a picnic or a camping trip—should take a bottle of mosquito repellant with him—and use it! It may save you a lot of discomfort and protect your health.

Around a century ago when the Statehood of Florida was being debated in Congress, the Honorable John Randolph of Virginia rose to state that Florida could never be developed, nor would it ever be a fit place in which to live. He described it as "a land of swamps, of quagmires, of frogs and alligators and mosquitoes." Truer words were never spoken. These were dark days as far as human existence was concerned. The State at the time (1845) had a population of 66,500 people with the greatest percentage to be found in the northern part of the State.

Photo page 22, courtesy Allan D. Cruikshank

MOSQUITO CONTROL PROGRAMS*

A Mosquito Control District* is a political subdivision of the state which is voted in by the citizens of a county or area who declare themselves willing to be taxed so as to control mosquitoes and other arthropods of public health importance. The non-starred counties are those who are participating through funds made available by the Board of County Commissioners.

The state contributes funds to the districts and counties engaged in this kind of work.

Note now the following 5 million dollars is being spent in 50 counties:

Alachua	$ 24,052.82	*Lee—Ft. Myers Bch.	$ 36,652.23
Bay Co. Comm.	52,588.15	Leon	60,000.00
*Bay—Gulf Dist.	35,713.85	Levy	11,000.00
Bradford	8,721.46	Madison	1,345.00
*Brevard	242,717.00	*Manatee	60,500.00
*Broward	62,000.00	*Martin	25,376.98
Calhoun	2,500.00	*Monroe	106,000.00
Charlotte	33,000.00	*Nassau	42,857.17
*Citrus	70,650.56	Okaloosa	22,683.69
*Collier	54,163.00	Orange	53,457.00
*Dade	240,788.00	Osceola (Kissimmee)	5,777.41
*Duval	54,434.10	*Palm Beach	212,506.00
Escambia	105,578.52	*Pasco	34,212.11
*Flagler	11,786.30	*Pinellas	227,332.35
Franklin	12,000.00	Polk	144,948.15
Gadsden	7,760.00	Putnam	8,850.00
Gulf	26,687.10	*St. Johns	37,159.31
Hardee	2,555.00	*St. Lucie	92,276.91
Hernando	2,505.03	Santa Rosa	15,767.86
Highlands	4,038.56	*Sarasota	60,000.00
*Hillsborough	182,070.40	Suwannee	9,373.22
*Indian River	221,685.00	Taylor	4,473.71
Jackson	6,319.01	*Volusia	196,752.00
*Jefferson	9,569.00	Wakulla	12,500.00
Lake	71,545.00	Walton	4,800.00
*Lee	271,034.98	Washington	5,316.72

TOTAL OF LOCAL FUNDS APPROPRIATED: $3,308,380.66

AMOUNT OF FUNDS APPROPRIATED BY THE STATE: $1,650,000.00

GRAND TOAL: $4,958,380.66

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All counties in Florida have organized County Health Departments.

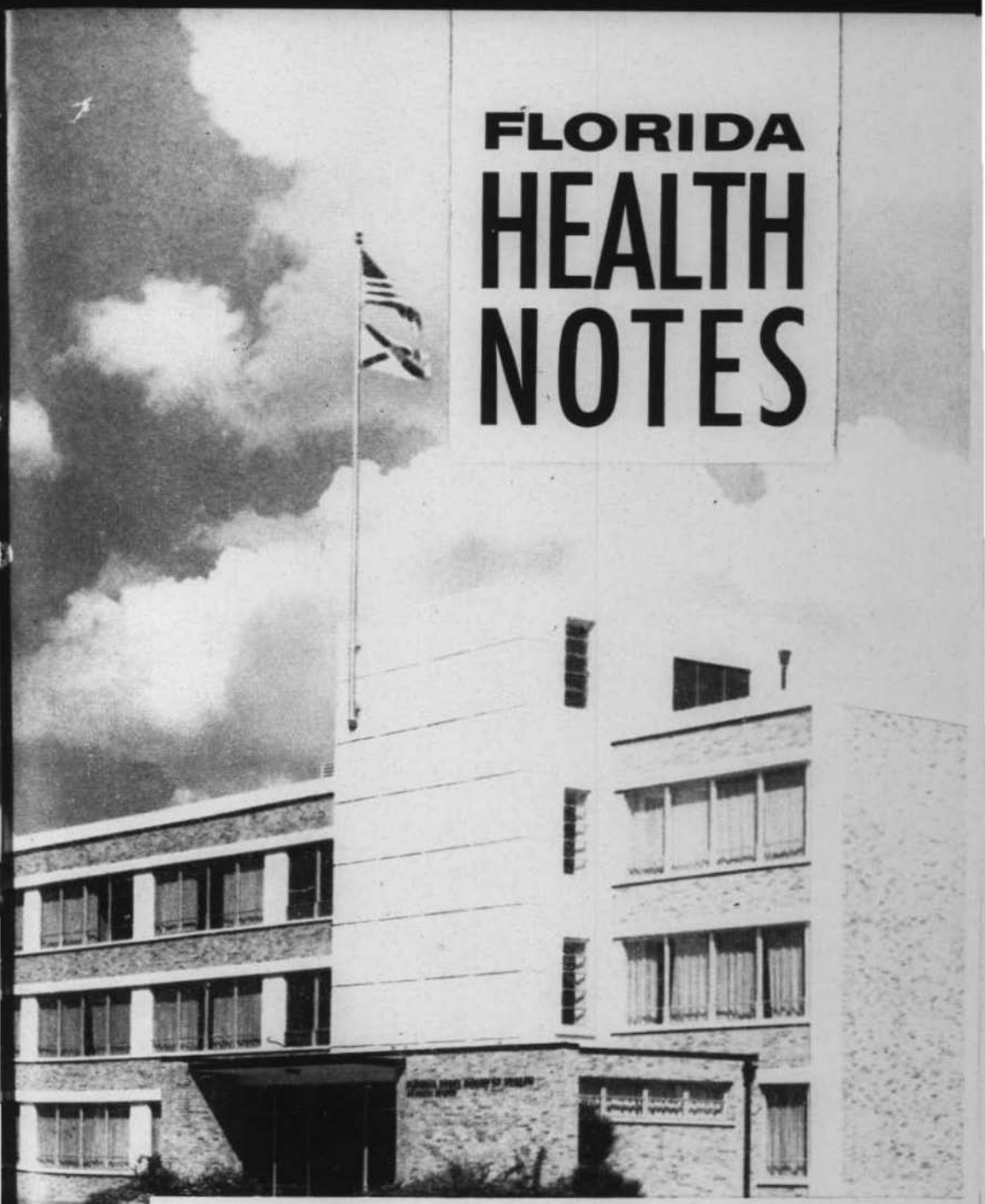
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FLORIDA HEALTH NOTES



VOLUME 53 • NO. 2
FEBRUARY, 1961

SUCCESS STORY

FLORIDA STATE LIBRARY



Here a clinic doctor (a private physician) discusses a baby with its mother at a well baby clinic sponsored by a County Health Department.

Success STORY

October 1, 1960 was a day for celebration in Florida. The State Board of Health welcomed into the fold the 67th and last, of Florida's counties to have a fully accredited County Health Department. Thus ended a span of 30 years devoted to the establishment of a Health Department in every county to guard the health of its people—to help prevent disease and prolong life.

Florida is one of the few states in the nation which has achieved this enviable record. Most other states — North, East, South, West — are still working to attain this desirable goal. How was this accomplished in Florida? What problems had to be solved? What problems still confront us?

First, perhaps a look at how St. Johns County supports its Health Department will give a clue as to the cooperation that is so essential. City, county and school board funds make up the local support which is required to match state funds which are available through the State Board of Health. Formerly the school board had employed a school nurse but her services were limited in that she had no authority to follow-up on a child's illness, physical or emotional problem by visiting his home. She is now on the staff of the County Health Department. The doctor who was serving as health officer along with private practice did an excellent job but his time was limited. City and county sanitarians and engineers each did their own work. The sanitarians are now likewise on the Health Department staff.

The present health officer says, "The entire health program was made possible by an almost unprecedented bringing together of all the people and agencies who could support it and the blending of their efforts into one operation without friction." Members of the local Medical Society, PTA, Board of Public Instruction, City Commission and County Commissioners all worked together—and had done so for years. Cooperating with them were various voluntary health agencies.

Two more public health nurses have been employed by the County Health Department. They will be able to give more attention to the problems of mothers, babies and school children; to find the contacts of tuberculosis and venereal disease patients; to counsel victims of chronic diseases, etc. It is hoped that later more public health nurses can be added.



The baby on the inside front cover here receives a physical examination as a part of a County Health Department's well baby clinic.

A new clinic is being opened in Hastings, a small town in the southwestern part of the county. Overlapping and duplication of health services will be lessened and citizens outside of St. Augustine can claim their share of attention from the staff of the County Health Department.

WAY BACK WHEN

In 1821, General Andrew Jackson, then Governor of the Territory of Florida, issued a proclamation setting up a Board of Health in Pensacola and appointing a health officer.

The present State Constitution which was adopted in 1885, not only provides for a State Board of Health to have supervision over all public health matters in the state, but also provides that county boards of health "may be established." The State Board of Health was established by the legislature in 1889 after a severe yellow fever epidemic. But, even before the turn of the century, the State Health Officer had recommended the abolition of the county boards of health and the legislature had complied. This course was taken because each county board of health had not only adopted its own regulations for the control of communicable diseases, especially yellow fever, but these regulations were enforced with varying degrees of emphasis. Funds and energy were spent in quarantine procedures, with special emphasis on the exclusion of travelers and goods from areas suspected of infection. Written permission was

FLORIDA HEALTH NOTES

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necessary from each county involved before travel could be undertaken. For example, an elderly resident of Yulee recently gave to the State Board of Health a Certificate dated August 12, 1905, which he carried when he bought lumber from sawmills in northern Florida and south Georgia. It was at this time that a yellow fever epidemic, the last in Florida, occurred in Pensacola. The certificate stated that the gentleman "had not been in contact with any contagious quarantinable disease for fifteen days, and further that his person, clothing and baggage threatens no danger from Cholera, Small Pox, Yellow Fever or Leprosy." On the back of the paper are numerous dated stamps of either a railway agent or post office representative who were required to certify that the holder of the certificate passed through their towns or areas and had not been "in contact with any contagious quarantinable disease."

Following the legislature's action in 1889, for approximately the next 40 years, except within the larger cities and towns, public health services were provided by persons employed directly by the State Board of Health. At one time there were eight district offices, each under the direction of a health officer.

Take the time, in February 1904, when 18 cases and 7 deaths of

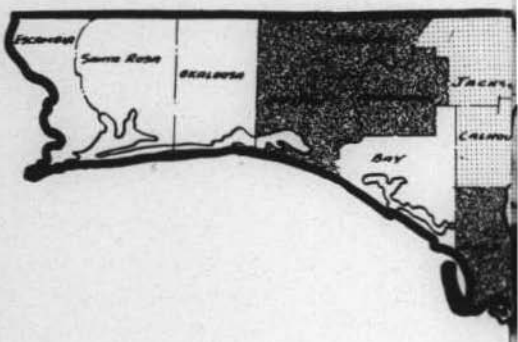
A lollipop and a kindly public health nurse help to allay the fears of this child who is being immunized against polio.



TEXT MAY BE LOST DUE TO TIGHT BINDING

"spotted fever" or cerebrospinal meningitis were reported to the State Board of Health by the mayor of Madison. Promptly, a special agent from the State Board of Health was dispatched to the town and isolation and disinfection began. Refugees from Madison crowding into nearby Live Oak and Quincy brought about talk of "shot gun" quarantine, uninformed discussion of the disease and exaggerated stories of the illness. The agent was also sent to these towns to quiet the alarmed citizens. The physicians in the three towns were requested, confidentially, to make reports of the disease and the attitude of the citizenry to the State Board of Health. The epidemic was at an end when the special agent reported in a letter from Madison to the State Health Officer, "I think the excitement here has completely subsided or rather been absorbed by the breaking into a store that occurred here last night. When we meet people today they ask, 'How's the sick?' and while we are yet answering they interrupt with the inquiry they wanted to make at first, 'Has anything more been heard from the robbery?' "

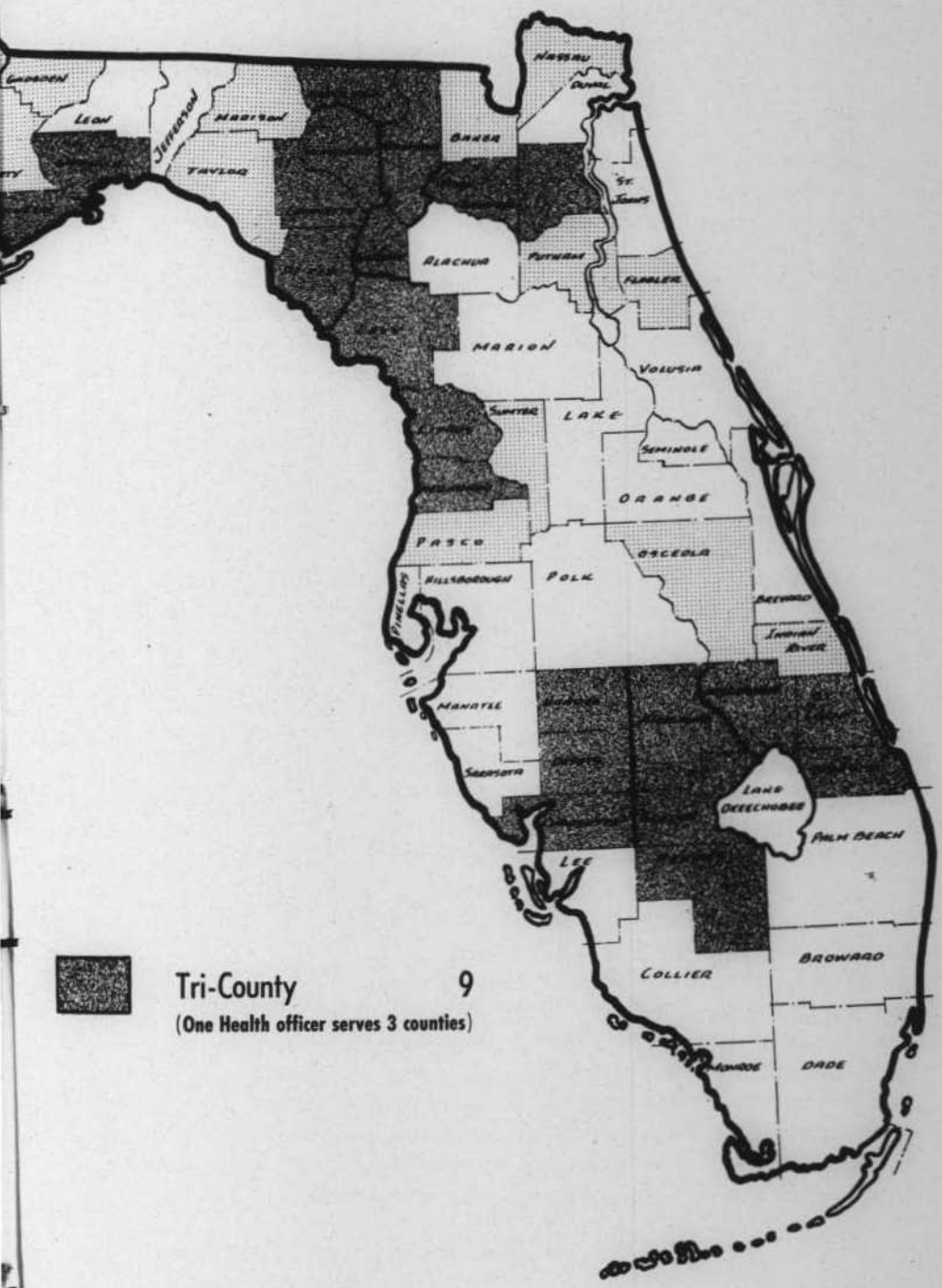
After the first World War there was a revival of interest in local health departments. A campaign for the establishment of County Health Departments was, however, nipped in the bud by a reduction in the appropriation for the State Board of Health, and interest did



County Health Units

Single County 26

Bi-County 7
(One Health officer serves 2 counties)



Tri-County 9

(One Health officer serves 3 counties)

not again become general on this subject until a decade later.

THE FIRST ONE

The Taylor County Health Unit was established in 1930 with the help of the U. S. Public Health Service. This area was just beginning to feel the impact of the depression and was burdened with malaria and hookworm disease. In the late 20's there had been an influx of "Boomers" from the northern states into Florida. A number of them had contracted the above diseases and carried them back home, sometimes causing a mild epidemic. Through the efforts of the State Board of Health and the Governor "measures were taken to reduce the prevalence of such controllable diseases." The first health workers were a public health nurse from Tennessee, a sanitarian from Massachusetts, a health officer from Canada and a secretary who was a local girl. For two years the county commissioners voted to put up funds for the County Health Unit but when the third year rolled around, the commissioner decided not to put it in the budget. They replaced the County Health Unit with a nurse *but* Taylor County remained without a health unit for just three years when it was voted back again—and never since has it been without a County Health Department.

Then in 1931 the legislature passed "an act relating to the public health, and to the control of preventable diseases, and to authorize counties of the State of Florida to cooperate with the State Board of Health in the establishment and maintenance by the State Board of Health of full-time local health units therein, and to levy and collect special county taxes therefor, and to authorize two or more counties to agree upon joint or concurrent action to effectuate the purposes of this act." Leon County started operation in January 1931, and Escambia followed in March 1932. Funds were to be deposited in the state treasury to the credit of the county involved. Minimum personnel required included a physician, public health nurse, a sanitarian and a clerk who were required to devote their entire time to public health work. (This was a new idea for formerly health officers were often private physicians who served the health department only part-time.) Personnel were to be appointed by the board of county commissioners with the approval of the State Health Officer.

This excellent law has been so entirely satisfactory that no attempt has ever been made to change it. In 1939 the legislature first passed an appropriation of $50,000 "to maintain 17 health units." In 1941 this jumped to $150,000 for "county health units."



A public health nurse works with a nursing home employee in preventing an aged patient from developing bedsores.

County after county began to participate. By 1945 there were 37 accredited County Health Departments covering 30.8 per cent of the state's population. In 1952 the 66th County Health Department was approved, leaving only St. Johns County unapproved.

Today in Florida there are 26 County Health Departments in which a physician serves a single county as director; 7 bi-county units where a physician serves two counties as the director of both County Health Departments; and 9 units where he serves three counties in this capacity. The reason for bi-county and tri-county health units is that the smaller counties cannot by themselves afford the services of a trained physician so they share him with an adjoining county(ies).

HOW MANY PEOPLE?

County Health Departments employed, as of November 1960, about 1450 persons. Of these 71 were public health physicians, 525 public health nurses, 292 sanitarians, 78 mental health workers (including psychiatrists and psychologists) and 484 other persons including sanitary engineers, biologists, laboratory technicians, dentists, nutritionists, health educators, veterinarians and clerical and administrative personnel. All these employees are covered by the Florida Merit System.

PUBLIC HEALTH NURSES

Nurses make up one of the largest groups found in County Health Departments. Following the passage of the Shephard-Towner Act in 1921 (which was concerned primarily with the health of mothers and babies) and the allocation of matching funds to the states, public health nursing was formally initiated in Florida. Since that time these nurses have grown in numbers and excellence. As of January 1961, there were over 500 public health nurses employed by County Health Departments.

Public health nurses have many jobs. They work with mothers and babies, both in clinics and at home; care for persons who have communicable diseases; visit schools at regular intervals; are concerned with people who have venereal diseases, tuberculosis, cancer, diabetes, etc.; counsel persons with mental or emotional problems; work with the parents of retarded children; inspect and supervise nursing homes; and in seven counties give bedside nursing service.

If the money requested is appropriated by the 1961 Legislature, it is hoped that a complete public health nursing service, combining health teaching, demonstration, prevention of the spread of illness and home care of the sick can be set up in at least 15 more counties in Florida. This can be accomplished by the addition of one extra nurse to the County Health Department staffs in each of 15 rural counties. This work would be assisted by a local advisory committee of lay and professional people.

SANITARIANS

This group of approximately 300 employees is represented in each of Florida's 67 County Health Departments. Several of the smaller counties are served by single individuals while the larger counties have staffs ranging from 15 to 51 sanitarians. They are concerned with improving living conditions in the community by controlling those factors of the environment which affect your health, safety and well-being. Sanitarians investigate outbreaks of food-borne and other communicable diseases. Their work includes visits to and evaluation of: restaurants, food processing plants, meat markets, grocery stores, dairy farms, milk plants, abattoirs, rendering plants, water supplies, sewage and garbage disposal facilities, schools, child care centers, institutions, trailer parks, labor and recreational camps, swimming pools, bathing places, amusement parks, industrial plants, public and private premises. They notify owners and operators of deficiencies found and advise them how to make corrections.

Frequent training courses and seminars are conducted by the State Board of Health, state universities, U. S. Public Health Service and the Florida State Association of Sanitarians so that County Health Department sanitarians are able to keep up-to-date.

Sentiment in Florida has always been against separate school health services financed and administered by educational agencies. Today, except in a few isolated instances, County Health Departments render the school health services though in 34 counties the local school board makes a contribution to the common fund for the County Health Department.

A FEW FAIRLY NEW AND URGENT PUBLIC HEALTH PROBLEMS

County Health Departments have not yet solved all of Florida's local health problems. For example, we need to do more in the field of *mental health*. Why? Because with our rapidly growing and shifting population we have more people as well as more mental health problems. Also, new methods of treatment for mental illness make it possible to send people home from psychiatric (state) hospitals who would have formerly lived out the remainder of their lives under confinement. But when they are allowed to go home, they need guidance and help. Before they leave the hospital, relatives, employers, neighbors and friends must be made ready to receive them. After they get home, there are many adjustments to be made to help them get back into the stream of everyday life. This takes more mental health clinics and more mental health workers.

Nursing homes must be helped to meet minimum standards. Each year we have more older people in our population. People are living longer — to suffer from the disabling effects of chronic diseases. So . . . we must help new nursing homes plan for adequate quarters, old ones to eliminate fire and sanitation hazards, all to provide better nursing care, balanced meals, rehabilitation of their patients. This takes professional consultants as well as public health nurses and sanitarians on County Health Department staffs who make inspections and supervise local nursing homes.



A sanitarian inspects food and methods of serving patients at a nursing home. The public health nurse in the background and sanitarian act as a team in working with nursing homes.

Expansion of our population makes demands on the *sanitary engineering services* available to the County Health Departments from the State Board of Health. While state and regional engineering consultants will remain available, they cannot do the job alone and need help. The larger County Health Departments should expand their



Pure drinking water should come from a modern plant, such as this well and pumping plant which serves a Florida community

engineering staffs. It takes such trained persons to remain on the alert so that our drinking water remains pure and our streams, lakes and beaches of Florida are maintained for the use and recreation of the people.

Another problem which might be termed almost a chronic disease is that of the *mentally retarded*. Now, because of increased medical knowledge most mentally retarded persons enjoy a normal life span. Since we do not know all the answers to what causes mental retardation we must, in cooperation with many other groups, as a first step train professional persons such as nurses, social workers and teachers so they will better understand what they can do to help these less fortunate people. A second step is to train parents to care for their retarded children. And some day we will have to answer the question: Who will care for these children in their old age?

☆ ☆ ☆

No one can tell how long he will be ill and if he has to go to a hospital, how long he will have to stay. Hospitals do not want to discharge persons too ill to be cared for at home — even though the patient and his family cannot pay any more than they have already expended— if they had any money for medical care in the beginning.

But who really does pay for these additional costs for hospitalization received by indigents?

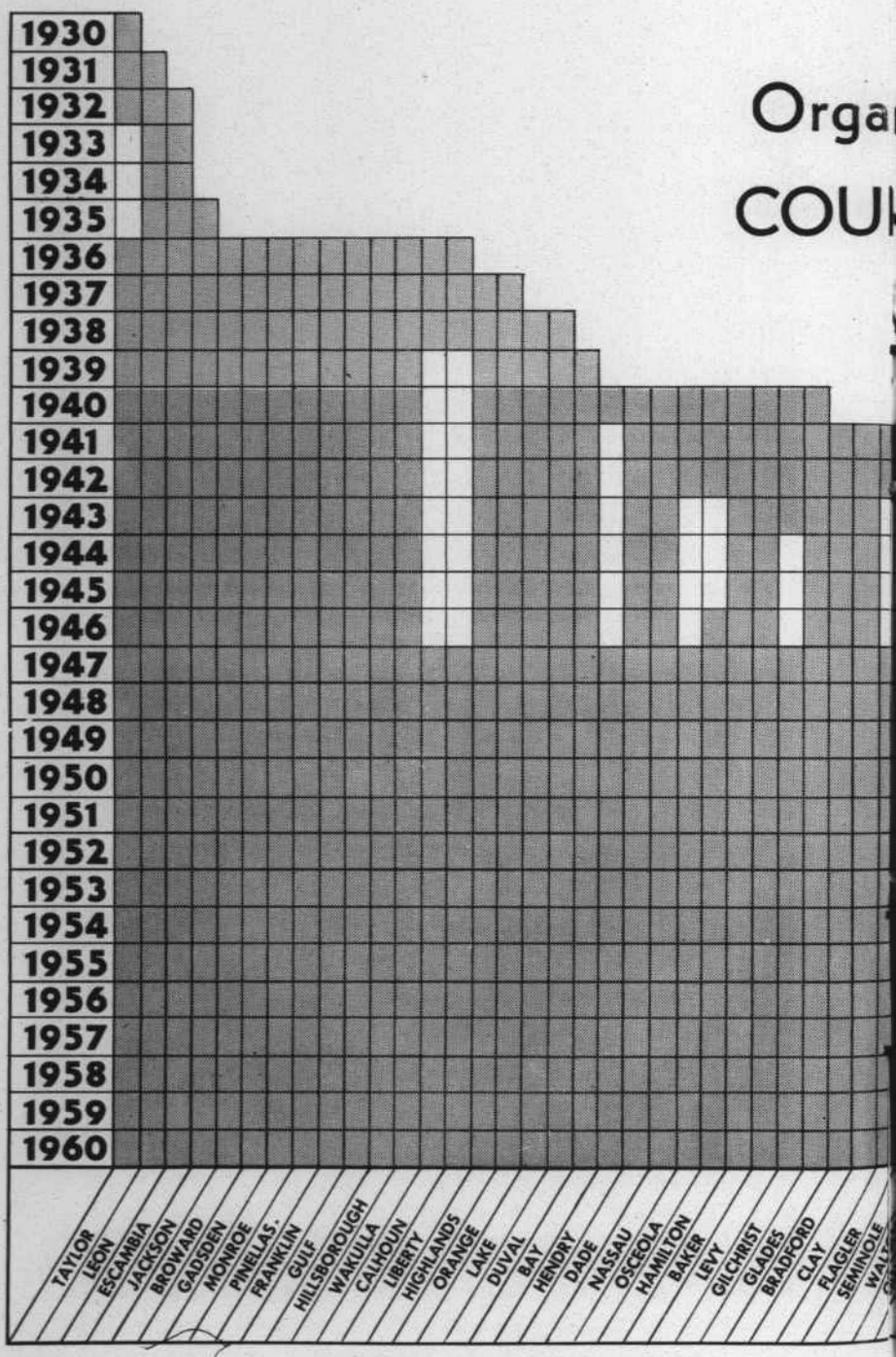


Testing for vision defects is only one of the many duties performed by public health nurses in the schools.



A public health nurse visits the home of a school child who has been ill. This enables the nurse to report home conditions that might be affecting the child's school work and also to discuss school situations with the parents.

TEXT MAY BE LOST DUE TO TIGHT BINDING



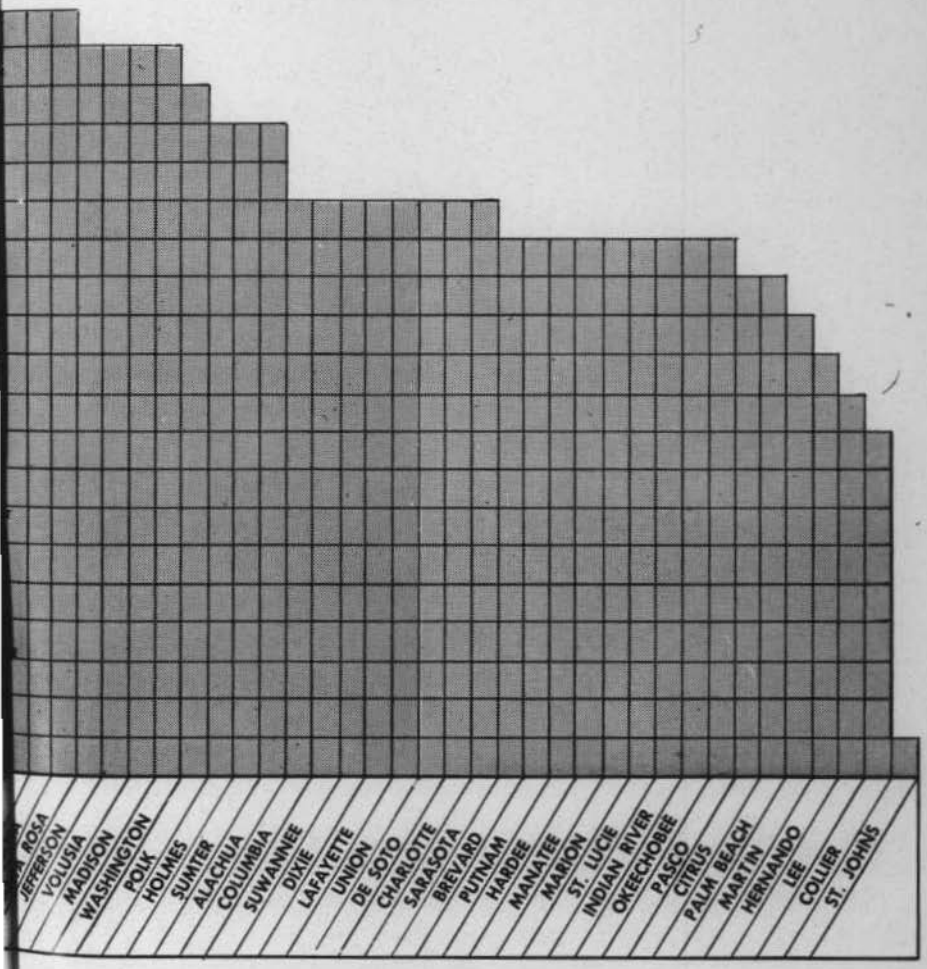
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COU

ization of Full-Time

TY HEALTH UNITS

in Florida
1930-1960





This is a community sewage disposal plant serving several thousand people. The County Health Department sanitarian checks it as one of his duties.



After receiving treatment, effluent from the above plant may be safely expelled into the river near a large Florida city.

Florida has currently two programs to care for the medically indigent. One program, originated by the 1955 Legislature to provide hospital care for the indigent and known as the *Hospital Service for the Indigent Program* (HSI), serves the medically indigent under state-county sponsorship. The individual County Health Departments determine eligibility and the program is administered by the State Board of Health in cooperation with the County Health Departments. This plan originally cared for those on public welfare rolls as well as other medically indigent persons.

Then another program, known as the *Public Assistance Recipients Program* (PAR), which operates under state and federal sponsorship, came into being. In 1959 the Legislature directed the State Board of Health and the State Department of Public Welfare to get together in order to work out a plan to match available federal funds. As a result, the State Department of Public Welfare purchases from the State Board of Health the services necessary for those persons carried on the state public welfare roles who are ill and in need of hospital care. PAR simply provides a different method of paying hospital bills for those on public assistance, making use of federal funds.



Septic tanks and (as shown here) sand filters are installed under permits issued by the health department. The installation must be approved by the sanitarian before it can be covered and put into operation.

These programs make it possible for many indigent persons to receive medical attention and to return more rapidly to employment. Expansion of the program to care for our rapidly increasing popula-

Taylor County Health Unit held "quinine clinics" during the summer of 1931 to distribute the drug free to those who were suffering from malaria and unable to purchase the medicine. At this time, health officials admitted that screening a house against mosquitoes was a better preventive, but as long as quinine treatment was popular the practice would be continued to prevent adverse criticism of the newly organized County Health Unit.



Eating establishments, such as this modern and well-equipped cafeteria in a large Florida city, are inspected regularly by the sanitarians.

tion would further speed rehabilitation and reduce in part the overall welfare program costs.

WE WERE AMONG THE FIRST

Florida's County Health Departments have pioneered in many new and outstanding public health activities. They have been assisted by the State Board of Health which often helps them set up a program, nurse it through its infancy and aid it with parental suggestions as it grows older. Some of the outstanding programs are:

- Florida has two programs to care for the medically indigent. One program, known as the *Public Assistance Recipients Program* (PAR), operates under state and federal sponsorship. The other, known as the *Hospital Service for the Indigent Program* (HSI), operates under state-county sponsorship. (A more detailed discussion is given above.)

- Mosquito control—sometimes carried on by the County Health Department and sometimes by mosquito control districts which cooperate with the department.

- School health services—which in many other states are carried on solely by boards of public instruction. In Florida these services are primarily the joint responsibility of the County Health Department and the local Board of Public Instruction, which in 34 counties contribute to the health department's budget.

• Mental Health Clinics (including child guidance clinics)—16 of these serve the community in which they are housed, as well as persons from surrounding counties. These clinics are often operated by and are always assisted by the local health department.

• Gray Lady program—whereby Gray Ladies trained by the Red Cross render first aid and other services to children during the school day, under the general direction of the principal and the public health nurse assigned to the school.

• The Indian Services program in Glades and Hendry County Health Departments now serve two large Seminole Indian reservations, Brighton and Big Cypress. These services were transferred to the County Health Departments in 1960 from the U. S. Public Health Service who had formally been responsible for Indian health in this area.

• Research and demonstration programs are being carried on by County Health Departments in Palm Beach County: agricultural migrants; Pinellas: problems of aging; Seminole: school mental health program.

• Mental health workers are now employed by 23 County Health Departments. They help a little to fill the gap that now exists between lay persons and care needed from all-too-few professional people like psychiatrists and psychologists.

• Coordinated public health nursing and bedside nursing programs — where one nurse tries to take care of the nursing needs of the patient as well as teaching him about health. A program to combine the services of both public health and visiting nurses is being given impetus by the encouraging results of a two-year demonstration project in two of Florida's counties.



The dog warden (here a sanitarian) collects stray animals and impounds them. Owners in some cities may retrieve them for a small fee which includes immunization to prevent rabies.

SOME WAYS THE STATE BOARD OF HEALTH HELPS LOCAL HEALTH DEPARTMENTS

• Helps recruit persons with the proper education and training to serve in the 67 County Health De-

partments. Also, offers them additional training after they have been employed.

- Aids the Board of County Commissioners in organizing and keeping up-to-date their County Health Department.
- Gives advice and assistance to County Health Departments on everyday problems.
- Calls attention to new and desirable public health programs. Recent examples are: bedside nursing services, testing the relatives of known diabetics in an endeavor to find new cases, air pollution and radiation problems.
- Alerts local groups to potential threats to their health. Examples are signs of an epidemic beginning in one part of the state; the pollution of a stream by a new industry, etc.
- Encourages and assists County Health Departments to evaluate their own services to the community.
- Maintains a central audio-visual library, a medical and public health library and pamphlet stocks, publishes *Florida Health Notes*.
- Collects and preserves birth and death records.
- Enforces state pharmacy laws, the medical practice act, narcotics and barbiturates law.
- Approves plans for all public water systems, sewage and industrial waste disposal. Licenses operators of water and sewage treatment plants.
- Assists in the creation and operation of mosquito control districts.
- Surveys industrial plants to find potential hazards to the health of employees.
- Inspects and licenses hospitals and nursing homes often through the County Health Department.
- Coordinates medical and public health activities in the Civil Defense Program. The staffs of the State Board of Health and County Health Departments make up a mobile force which can be dispatched anywhere in the state in case of either a natural or enemy disaster.

CROSS COUNTY LINES

Floridians are never reluctant to discuss "state's rights" nor are the counties reluctant to discuss "county rights." And there are real advantages in having County Health Departments as decentralized agencies. However, the presence of the State Board of Health insures that the people will receive certain common services no matter what changes there are in local Health Department personnel or county commissioners.

There are many services that go across county lines. To mention a few: agricultural migrants stop wherever they can get work. They may be diagnosed as having tuberculosis in one county, but have to be followed up by a County Health Department in another county—or even in another state.

Public health laboratories serve everyone. The Central Laboratory in Jacksonville and the six regional laboratories accept specimens from surrounding counties.

The Premature Demonstration Center in Miami receives babies from the nearby counties. It also acts as a training center for Florida's doctors and nurses.

The 16 Mental Health Clinics accept patients from neighboring areas as well as the counties in which they are located. So do the 22 Cancer Clinics.



With the foregoing discussion we hope we've made one point clear—that your health is protected in many ways, every day, without your ever knowing it. That's the job of your State Board of Health and your County Health Department.



Public health dentists are employed in some of the larger County Health Departments. Here a specially equipped trailer is used in a rural area for children whose parents cannot afford private dental care.

Before County Health Departments were organized there were many unregistered midwives in Florida and some were men. One practiced midwifery only as a sideline as his regular job was operator of a one-man ferry on a West Florida river. When he was called to officiate at a birth he usually left a crudely lettered sign by the ferry: "Gone to catch a baby—wait."

Vital Information About County Health Departments

(as of January 16, 1961)

COUNTY	HEADQUARTERS LOCATION	DIRECTOR
Alachua	816 S.W. 4th Ave., Gainesville	Edward G. Byrne, M.D.
Baker	14 W. McIver Ave., MacClenny	J. C. Loranger, M.D.
Bay	624 E. 6th St., Panama City	A. F. Ullman, M.D.
Bradford	315 N. Church St., Starke	A. Y. Covington, M.D.
Brevard	1040 S. Dixie Hwy, Rockledge	Albert O. Rossi, M.D.
Broward	605 S.W. 26th St., Ft. Lauderdale	Paul W. Hughes, M.D.
Calhoun	East Main Street, Blountstown	Terry Bird, M.D.
Charlotte	City Hall, W. Marion St., Punta Gorda	Eugene J. McLaughlin, M.D.
Citrus	Court House, Inverness	Harold F. Bonifield, M.D.
Clay	Court House Annex, Idlewild Ave., Green Cove Springs	A. Y. Covington, M.D.
Collier	216 Broadway, Everglades	Clarence R. Pearson, M.D.
Columbia	Court House, Lake City	
Dade	1350 N.W. 14th St., Miami	T. E. Cato, M.D.
DeSoto	Scott Bldg., 4 W. Oak St., Arcadia	Eugene J. McLaughlin, M.D.
Dixie	County Health Center Building, Cross City	J. Harland Paul, M.D.
Duval	404 Court House, 330 E. Bay St., Jacksonville	Thomas E. Morgan, M.D.
Escambia	2251 Palafox St., Pensacola	J. C. McSween, M. D.
Flagler	Moody Boulevard, Bunnell	James R. Sayers, M.D.
Franklin	Washington Square at Ave. G and 12th St., Apalachicola	Henry I. Langston, M.D.
Gadsden	113 N. Madison St., Quincy	B. D. Blackwelder, M.D.
Gilchrist	Ward's Barber Shop Bldg., Trenton	
Glades	County Court House, 2nd Floor, Moore Haven	Raymond P. Srsic, M.D.
Gulf	401 Long Ave., Port St. Joe	Henry I. Langston, M.D.
Hamilton	Dr. Curry's Office Bldg., Jasper	
Hardee	406 E. Main St., Wauchula	Eugene J. McLaughlin, M.D.
Hendry	Cor. Bridge & Oklahoma, LaBelle	Raymond P. Srsic, M.D.
Hernando	Court House, Brooksville	Harold F. Bonifield, M.D.
Highlands	Court House, Sebring	Raymond P. Srsic, M.D.

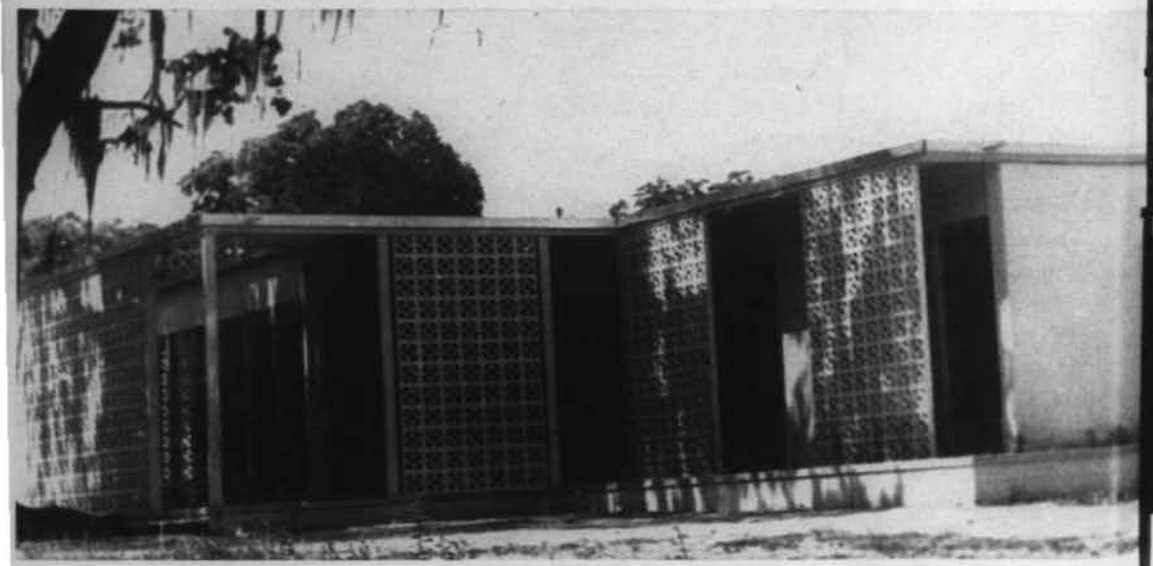
COUNTY	HEADQUARTERS LOCATION	DIRECTOR
Hillsborough	1420 Tampa St., Tampa 2	John S. Neill, M.D.
Holmes	Iowa Avenue, Bonifay	
Indian River	2535 14th Ave., Vero Beach	C. C. Flood, M.D.
Jackson	3rd Ave. and 4th St., Marianna	Terry Bird, M.D.
Jefferson	545 N. Jefferson St., Monticello	Thomas S. Englar, M.D.
LaFayette	Old School Bldg., Mayo	J. Harland Paul, M.D.
Lake	121 S. Sinclair, Tavares	James B. Hall, M.D.
Lee	Masonic Bldg., Fort Myers	Joseph W. Lawrence, M.D.
Leon	325 E. Gaines St., Tallahassee	Joseph M. Bistowish, M.D.
Levy	Court House, Bronson	Harold F. Bonifield, M.D.
Liberty	3rd House North of Post Office, Bristol	B. D. Blackwelder, M.D.
Madison	304 W. Pinckney St., Madison	Charles L. Mattes, Jr., M.D.
Manatee	202 6th Ave. East, Bradenton	F. K. Allen, M.D.
Marion	Ft. King & Osceola Sts., Ocala	Patrick H. Smith, M.D.
Martin	442 Flagler Ave., Stuart	Neill D. Miller, M.D.
Monroe	Cor. Thomas & Fleming Sts., Key West	James K. Cooke, M.D.
Nassau	4th & Ash Sts., Fernandina Beach	J. C. Loranger, M.D.
Okaloosa	602 N. Pearl St., Crestview	B. R. Provost, M.D.
Okeechobee	Highway 70, near center of town, Okeechobee	Neill D. Miller, M.D.
Orange	832 W. Central Ave., Orlando	W. N. Sisk, M.D.
Osceola	Court House, Kissimmee	C. C. Flood, M.D.
Palm Beach	419 5th St., W. Palm Beach	C. L. Brumback, M.D.
Pasco	City Hall, Dade City	C. E. Gill, M.D.
Pinellas	520 2nd Ave., St. Petersburg	Wm. C. Ballard, M.D.
Polk	229 Ave. D, N.W., Winter Haven	Chester L. Nayfield, M.D.
Putnam	819 Lemon St., Palatka	James R. Sayers, M.D.
St. Johns	49 Orange St., St. Augustine	Charles E. Newberry, M.D.
St. Lucie	210 S. 5th St., Ft. Pierce	Neill D. Miller, M.D.
Santa Rosa	North Stewart St., Milton	A. E. Harbeson, M.D.
Sarasota	1865 Hawthorne St., Sarasota	William L. Wright, M.D.
Seminole	French Ave. at 9th St., Sanford	Clyde L. Brothers, M.D.
Sumter	Old Community House, Bushnell	C. E. Gill, M.D.
Suwannee	Cor. Wilder & Pine, Live Oak	J. Harland Paul, M.D.
Taylor	Cor. Washington & Main, Perry	Charles L. Mattes, Jr., M.D.
Union	Civic Center, Lake Butler	A. Y. Covington, M.D.
Volusia	440 S. Beach St., Daytona Beach	D. V. Galloway, M.D.
Wakulla	Old Court House, Crawfordville	Henry I. Langston, M.D.
Walton	N. 9th St., DeFuniak Springs	
Washington	S.W. Court House Square, Chipley	



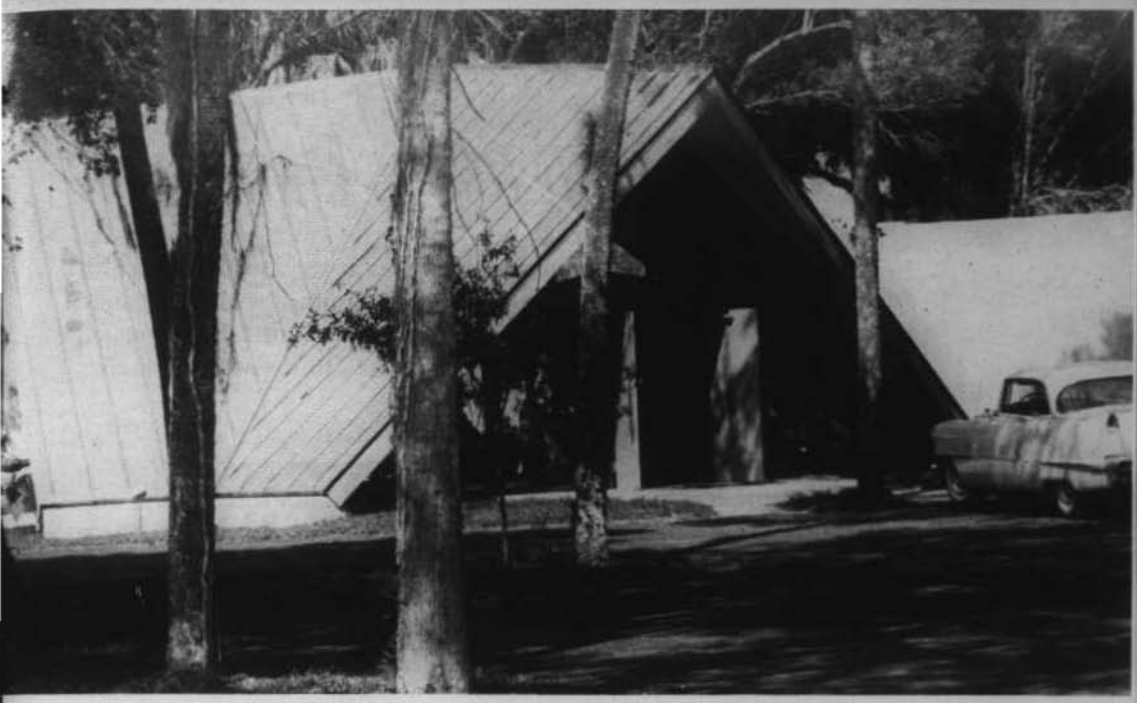
The Palm Beach County Health Department has just moved into its new quarters in West Palm Beach. The artist's sketch here gives an idea of its attractiveness.



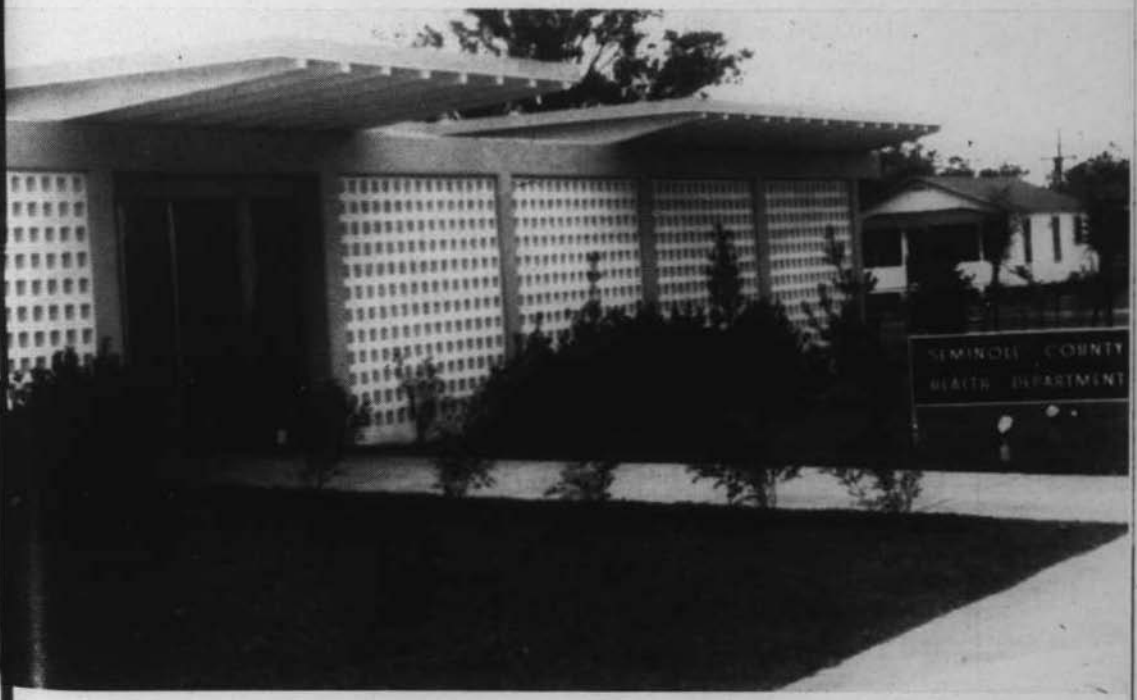
The County Health Department in Sarasota is housed in this modern building.



This Gerry Health Center in Jefferson County (Monticello) was built with private funds and houses the County Health Department.



The new offices of the Hendry County Health Department blend into a wooded area in LaBelle.



The Seminole County Health Department building in Sanford was completed late in 1960.

Things you might like to know . . .

Each County Health Department serves as the municipal health department for each municipality within the county with the exception of Jacksonville which has its own City Health Department. Orlando and Lakeland also have small city health department staffs.

How are Florida's County Health Departments financed? In all 67 counties the Boards of County Commissioners contribute a budgeted sum. In 34 counties Boards of Public Instruction also contribute. In 23 counties, certain cities within the county bear some share of the costs. In 14 counties there are miscellaneous contributors, among them four Visiting Nurse Associations. The total is then supplemented (by means of a formula) with state funds which are administered by the State Board of Health. This formula takes into consideration the population and how it is concentrated within the county, the need for public health services and the amount contributed by all groups within the county.

Florida's first privately-endowed county health center is a $100,000 building at Monticello erected in 1959—the Jefferson County Health Department. It is the gift of Mr. and Mrs. Edward H. Gerry and Mrs. Gerry's mother, Mrs. Libbe Rice Farish through an organization known as Healthyways, Inc.

What is spent on public health activities by County Health Departments? The average per capita for Florida is 98 cents. In 1959-60 Lafayette County with approximately 2889 population spent $2.86 and Pasco with approximately 36,785 spent 27 cents per capita.

Like to know something of the specific functions of a County Health Department? Write to the Division of Health Information, Florida State Board of Health, P. O. Box 210, Jacksonville 1, Florida, for a copy of "Health Protectors." Or are you interested in a detailed listing of the many duties of the Florida State Board of Health and the County Health Departments? A note to the same address will bring "Major Duties of the Florida State Board of Health and the County Health Departments."

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All counties in Florida have organized County Health Departments.

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POLLUTED?

FLORIDA'S PROBLEM . . .

WATER QUALITY CONTROL

The earliest settlers were unanimous in their praise of Florida as a land with a wealth of water resources — its thousands of lakes, many rivers and streams, deep crystal-clear springs, and abundant rainfall . . . which is now known to be exceeded on this continent only in the coastal areas of Washington and Oregon. The water table varies from a few inches to a few feet below the surface, as many a septic tank owner has found to his chagrin. Florida has the longest coastline of any state—more than two thousand miles.

But now, with a population of nearly five million people, Florida has a problem which grows in intensity and complexity every day—*water quality control.* This term is used by sanitary engineers to embrace not only the old familiar problem of pollution discharged from city sewers into our streams but also to characterize many more aspects of damage to water of which the public is unaware—industrial wastes of many kinds, including residues of agricultural insecticides, weed-killers, minute traces of radioactive fall-out, and even varying amounts of detergents. These, and many more *pollutants*—and they are *anything* that is not *natural* to the normal life of the water-course —are pouring into our streams and bays or discharging to underground water sources in daily increasing quantities.

Not only that, but the daily needs for water, on a per person basis, are increasing constantly. Our forefathers used only a few cups of water per day, for drinking, cooking and a not-too-frequent bath. Today we need water for those purposes, and also for washing cars, watering lawns, doing laundry and for a myriad of other domestic uses. In addition, industry uses water by the millions of

FLORIDA HEALTH NOTES

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gallons for making nylon, steel, medicine and paper; for processing foods, film, fertilizer and fabrics; for cleaning citrus fruits, electronic parts, toys and bullets. Water by the thousands of gallons is used to cushion the destructive force of missile launchings at Cape Canaveral. In every one of these water uses *something* is done or added to the water that requires it to have some sort of processing before it is suitable for use again.

All this is taking place in a *Florida which does not have one ounce more nor one ounce less usable, clean water than existed when white men first settled in it.* Sanitary engineers say the problem is now serious enough to require long and careful study, carefully prepared legislation against the abuse of the water supply, and long range planning for the future. They estimate the needs for water will almost double in the next ten years, and then perhaps double again and again before the year 2000. In many carefully prepared statements, at both the state and national level, we find engineers saying that the outstanding problem of this and immediately succeeding generations is and will be *water quality control.*

WHAT ARE WE TALKING ABOUT?

First, let us define our terms, and find out just what it is we are talking about. The term, *water quality control,* is used by sanitary engineers to mean the overall management of water supply so that all legitimate and necessary uses will be served. Proper control requires that water of a quality and purity suitable to those needs is available without impairment beyond redemption. For example, the water emptied from a well-managed swimming pool may be dumped into a river without damage to the fish, and without rendering the river unfit for ordinary human uses like swimming or boating. On the other hand, dumping untreated raw sewage of a fairly large city into a river, along with its many chemical and industrial wastes, makes that river in reality nothing more than an open sewer fit only for the passage of large vessels and useless for all other human and wildlife purposes.

Put another way, *water quality control* means supplying public and private water systems with water which can be rendered pure enough for drinking, cooking and bathing by conventional purification systems. It also includes the maintenance of all other waters—streams, lakes, etc. — in such a condition that they can support the normal amount and quality of fish and wildlife, and not offer an insult to the nostrils or danger to the health of people.

Another word which needs definition as used here is *pollution.* Historically the word meant only those noxious substances which were associated with raw domestic sewage. But sanitary engineers now give it a broader meaning. They use it to



include any substance which is not a natural and normal component of the water. Thus sugar could be called a pollutant. This is facetious, but it is used to illustrate something more serious.

MOVING FAST

Modern technology is producing new processes and products in practically every field of man's endeavor and creating thousands of by-products which are discharged into our sewerage systems and waterways. This process has progressed at such a rate that the sanitary engineers are frank to admit that they are far behind in evaluating the effects on our environment of these new pollutants.

Many of these are so unfamiliar to us that a mere listing of them would have no meaning. It would only be a list of "jaw - breaking" chemical names. Others are quite familiar. The well-known detergents, for instance, remain indefinitely in the waters into which they are discharged. After awhile they can reach such concentration that the water foams when poured or disturbed. The long range effect of this on man and fish is not yet known to scientists or engineers. Insecticides, weed-killers and fertilizers are now used in quantities undreamed of before World War II. They are washed from our agricultural areas into our water supply,

and are slowly building up there. Again, science does not know what effect these substances will have on man. Tiny bits of radioactive material are washed from the soil where they have been deposited by fall-out. They are tasteless and odorless, detectable only by the most delicate of electronic instruments.

To go back, you can now understand our reference to sugar as a pollutant when you consider it as a symbol of something that is added to the water, has no unpleasant taste, color or odor, and seems harmless and insignificant. But it is a pollutant. It does not belong there.

One instance of the effects of pollution is the condemnation by health authorities of vast areas in Florida bays and coastal waters for the commercial harvesting of oysters. Only a few decades ago, these waters abounded in growing beds of this delicacy which could be safely consumed as a food — but no longer. The reason for this is the vast increase in population along our waterfront and the use of the waters for waste disposal. Discharge of industrial wastes toxic to shellfish into some waters and (pollution of the waters with human wastes) as well as over-harvesting have taken their toll on this industry.

Oysters are widely consumed in the raw state and if harvested from polluted waters may transmit typhoid and other diseases among humans. The oyster actually thrives on small amounts of human wastes and the biggest, fattest ones from polluted areas could cause the most trouble.

Authorities now are fairly well in agreement that Florida will never again become a statewide produc-

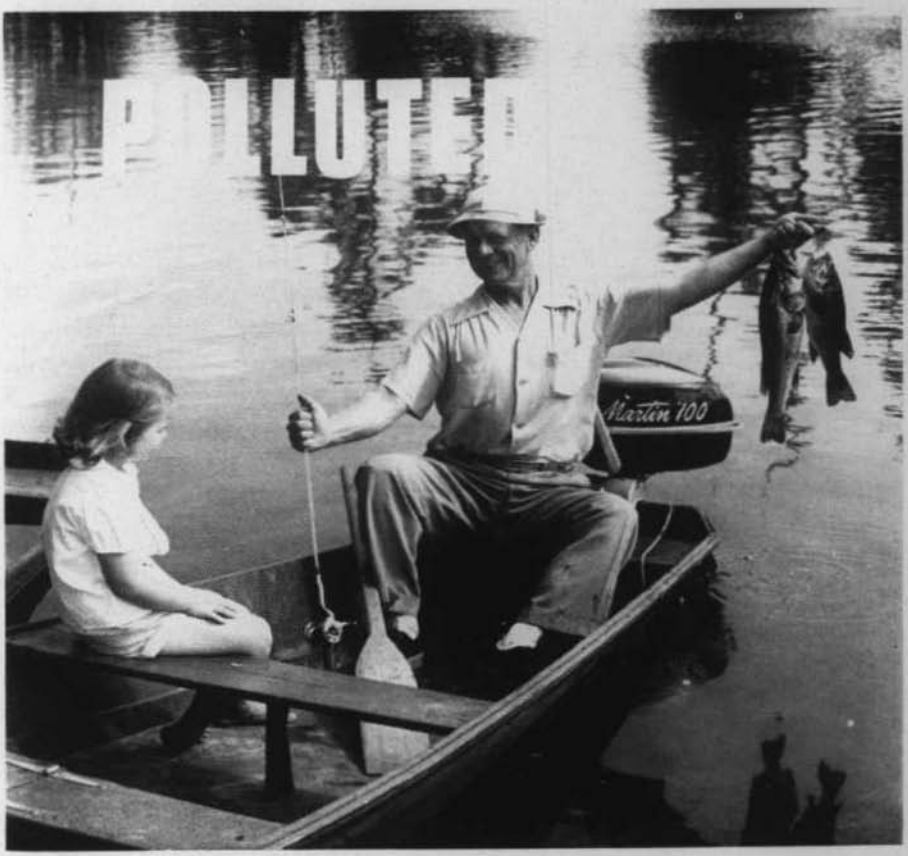
AN OLD TIME PROBLEM

Nature has a way of providing man with instincts which serve where knowledge is lacking. Long before man learned anything at all about sources of disease his eyes and nostrils told him that waste organic matter had to be discarded a distance from his living quarters. Moses decreed certain sanitary practices for the children of Israel on their long trek to the Promised Land. Hundreds of years before the Christian era other rulers decreed that human waste might not be thrown in the streets, but the practice continued in parts of Europe until recent times and is followed in remote parts of the world today. The Greeks and Romans had elaborate systems of water supply and sewage disposal. The American Indian decreed death to anyone who fouled a source of drinking water.

tive area for oysters, because most of the quiet, sheltered waters needed for oyster farming are almost impossible to protect from a certain amount of pollution. Even if the waters become clean enough, the cost of restocking the beds would be prohibitive. This cost would have to include the dumping and spreading of countless tons of oyster shells in order to prepare beds for restocking, and then the protection of the beds from pollution.

The public should be warned, experts say, not to buy or collect and eat raw oysters not produced under conditions approved by state authorities. To do so is to invite disease. "Bootleg" oysters, those gathered from unapproved sources, are sometimes offered to the public, not by legitimate stores and markets, but by private sources. Even as a gift, such oysters should be shunned. It is quite possible that they were gathered only a short distance from the outlet of some city's sewer system.

Citrus, the state's major industry outside of tourism, could have be-



The immediate problem in controlling water pollution is putting to work the knowledge and engineering skills which are now available. In part, this means adopting better industrial and agricultural practices to keep the more dangerous pollution from ever reaching a watercourse. But mostly it means building new waste treatment plants and modernizing older ones. The United States now has a $4 billion backlog in municipal and industrial treatment plants which are needed right now but are not yet constructed.

—Public Health Service

come a major source of serious pollution. As the citrus industry grew, an even larger proportion of its products went into canned juices, and the processors were faced with an enormous volume of a type of organic waste which deteriorated rapidly. But state authorities and the industry itself working together, found ways to make this waste either a useful product in cattle feed and fertilizer or to reduce the volume of liquid waste finding its way into our waterways. In recent years methods have been devised for getting a far greater percentage of the juice out of the fruit. Today, with so much citrus going into concentrates, a surprisingly small amount of the fruit is left as waste, and most of that is used in the production of profitable by-products mentioned above.

One might suppose that slaughter houses, rendering plants and other processors of highly perishable meat-type foods would present a serious waste disposal problem. Not long ago they did. In one city the meat markets were built so that one end of the building extended out over the river with a hole in the floor. The river flowed slowly, and the decaying matter piled up until older residents of the city say the word "intolerable" would hardly describe the situation. The area became uninhabitable and the markets were moved.

Today, these processors cooperate well with sanitation authorities, vying with each other for cleanliness of plants and facilities. Waste is turned into by-products like fertilizer and canned pet food. So little becomes sewage that the popular saying, "They use everything but the squeal" seems to apply. The bone meal we use in our gardens also comes from these sources.

In 1900 there were 23,712 fatal cases of typhoid fever in the United States. We can surmise that several hundred of these were in Florida, although the actual figures were destroyed in the great Jacksonville fire. In 1958 and '59 the state did not have any deaths from typhoid. There was one in 1960, but there were 28 cases reported. And



the state's population increased about 500 per cent during the six decades.

We use the above figures to show *what has been done* in providing our people with pure water, for typhoid fever is primarily a water-borne and food-borne disease. We use them also to remind our readers that the result of water pollution is not merely inconvenience and discomfort, but serious disease and possible death. Other diseases such as dysentery, infectious hepatitis, leptospirosis and even occasionally poliomyelitis can be spread by polluted water.

The City of Jacksonville draws its clear, clean water supply from deep wells, but at present dumps it hundreds of tons of raw domestic and industrial sewage into the St. Johns River. Anyone who would attempt to catch fish in that river below Jacksonville would quickly find out what that means in terms of pollution. But Jacksonville has already embarked on a long range program of sewage treatment plant and sewer construction which will cost many millions of dollars, and substantially reduce this problem in the next few years.

The same can be said for many other parts of the state. In the past decade the two largest cities in the state, Miami and Tampa, placed in operation treatment facilities designed to clean up their bay waters.

"Nature's

It has always been a popular belief and understanding that nature, in its fine system of checks and balances, has a way of causing a river or stream to cleanse itself of pollution. This is largely true. If it were not, our planet would be vastly different from what it is. Streams would be deadly sources of disease and death, shunned by man and animal alike. They would be, except at their headwaters, evil smelling, dark colored ribbons of decay and pollution. We know that unless an *abnormal* amount of organic waste—human, animal and vegetable—is dumped into a stream, or unless a significant quantity of *unnatural* wastes such as detergents, industrial chemicals and radioactive material is added to them, they will absorb and render harmless the products of natural life which enter their waters.

This is done in three ways: through dilution, biological action and oxidation. The useful but often scorned action of many types of scavengers—tiny, one-celled animal and vegetable creatures, crabs, larva, "crawdads," etc. is an important first step in this process. Many higher forms of aquatic life also assist in this process. They eat many forms of waste, turning it into a form of organic material which is most easily made harmless by bacterial action and oxidation.

The animal and vegetable material is reduced by dilution and oxidation to the simpler forms of organic compounds. Then these compounds and many disease germs and viruses are attacked by the myriad forms of "good" bacteria broadly termed *saprophytes,* which complete the puri-

fying process. These organisms, which exist in countless billions in all outdoor waters, are the final scavengers of the microscopic world, the "kitchen police" of our rivers and streams. They break the noxious matter down into its final elementary forms, in which it is again useful to man. The oxygen is useful in the early oxidation of decaying matter and in oxidizing the water for the fish, so that they can live and breathe it through their gills. The nitrogen reenters the earth's supply to fertilize crops. The other elements also are returned to the earth in basic or simple compound form, and a few miles below the source of pollution the river is again clean and wholesome, as nature intended it to be.

It is only when man enters the picture, dumping into our streams *too much* of his pollution, or something strange that nature is not prepared for, that our water-courses become sources of distress, streams of disease and ugliness. The same man, with the same brains that invented all these pollutants, can, if he will, find the answer to these problems and devise the facilities to eliminate them.

But they cannot do this unless the rest of us, who are not engineers and scientists, show them with our support that we want these things done; that we want for the future, as in the past, a Florida known for its abundance of fresh, clean water, a source of health and happiness to our children and our visitors, and a monument to the judgment of a people who looked ahead and planned unselfishly for the future.

By eliminating or reducing the discharge of sewage to Biscayne and Tampa Bays, these waters have been returned to conditions suitable for water sports and fishing. The millions of dollars spent by each city have been well justified both health-wise and aesthetically.

TREATING SEWAGE

State records show that fifteen years ago Florida had only 25 sewage treatment plants in operation. By the end of 1960 there were more than 500 in operation or nearing completion. Even so, only about half of the state's population is presently served by sewerage systems. The rest depend on septic tanks and other more primitive facilities.

Much space could be given to description of these sewage treatment plants. This would serve little purpose except for those specifically interested in such plants. It is well for the public to know, however, a rule-of-thumb definition of the difference between a primary and a secondary treatment plant. (1) A primary, or partial treatment plant removes only a portion of the solids and bacteria present in the sewage. The primary treatment plant does not kill all of the harmful bacteria, but the effluent—that liquid which flows from it—is considerably improved. A small number of the 500 treatment plants mentioned earlier are of this va-



riety. (2) A secondary or complete treatment plant, by the use of additional units results in a higher degree of treatment, removing about 85 to 95 per cent of the pollution. This type of plant removes the solids, and so treats the liquids that they become odorles, colorless, and *in line with today's standards,* acceptable for discharge into a stream which must serve other uses. This is extremely important to Florida's future, as we shall see a little later.

Florida is among the nation's fastest growing states. The U. S. Public Health Service places the state first in growth on a population to area basis—that is, filling up its space most rapidly. Our own Bureau of Sanitary Engineering states that the nearly five million people of Florida are presently using *1.5 billion gallons* of water daily, and estimates that this will increase greatly in the next ten years.

New people and new industries are moving into Florida daily. The people must have water suitable for their physical needs, and the industries, often of the "light industry" variety, are in many cases the type which use water in processing operations. It is easy to see, then, that the state will have to do some immediate and long range planning and building of facilities to meet these needs.

Another very significant factor in Florida's water management is the tourist industry. Almost every one of the millions who visit the state each year wants some form of water pleasure. From the fisherman who rises at three in the morning to battle the wily bass to the quiet old lady who sits on her lawn, watching the quiet, cool lake or stream, they all depend in some way, on Florida's waters. And tourism is Florida's major industry.

What then is the problem, and what is the answer? The problem, stated most simply, is that the springs, rainfall and the streams total up to just so much water. When —and the time is fast approaching —the volume of available water is no longer as great as the demand of

"I believe that the state agencies involved in environmental health must have more funds, more personnel of diversified skills, and greater cooperative support from the public. Most states already have good sanitation laws, but most lack the funds and people to administer them forcefully."

Gordon E. McCallum, Chief
Division of Water Supply and Pollution Control
Bureal of State Services
Public Health Service
U. S. Department of Health, Education and Welfare

INDUSTRIAL STREAMS

Two of Florida's counties, Taylor and Nassau, have special permission from the legislature to use certain streams for *nothing but* the dumping of wastes.

the population, water will have to be used more than once before it is finally discharged into the ocean.

ALWAYS SOMETHING NEW

More and more sewage treatment plants are needed. But at this point another problem faces us. We have already noted that today a complete treatment plant will remove from ordinary domestic and industrial sewage enough pollution to make it safe for discharge into a stream whose waters are used for other purposes. But such plants and methods are fast becoming obsolete because of the many new—the engineers refer to them as "exotic" — pollutants which were unknown a few years go. We refer to radioactive materials, detergents and the hundreds of new synthetic organic chemicals which are dissolved in the water, and which are not removed by conventional, present-day methods. The chemical and biological structure of these compounds are not well known, and their long range effect on human and aquatic life is not known, nor have economical and practical ways of removing them from the water yet been devised.

Most Florida rivers are short, and most of our sizable cities are on or near the sea coast. In many cases there is no neighboring city downstream. The bay and coastal waters must be protected as well as rivers and lakes. So an inertia is created in the public mind when direct benefits are not immediately apparent.

The problem of pollution is extremely complex. Florida has been likened to a vast sponge, honeycombed with myriads of underground streams and rock strata which carry water long distances. Indeed, the tiny amounts of radium in Radium Springs, a few miles north of the Florida line in Georgia, are said to come from deposits in states as far north as Kentucky or even the Great Lakes. Radium Springs feeds in the Flint River, which flows into the Chattahoochee and thence to the Gulf through northern Florida. It is not difficult to believe then that traces of impurities dumped on the ground, or into a water-course, can be found later in well water many miles away. No geologist in Florida makes any pretense of having an underground map of the flow of water at its many levels, although broad areas of interchange have been discovered and recorded. And engineers can guess what *might* happen to a well say, near City "X" if some



traceable pollutant were dumped a few miles away in or near City "Y," 25 miles distant.

This has been demonstrated on more than one occasion. When engineers wanted to show groups of citizens with conflicting interests and views how complex and widespread are our underground water systems, they dumped a harmless but brilliant dye into a drainage well or other place proposed for sewage disposal and allowed the citizens themselves to discover a few hours later how the dye had permeated public and private wells, and in some cases the streams and lakes in the vicinity. This never failed to bring about a meeting of minds on the necessity of proper waste treatment and disposal.

Ideally, then, the solution to the pollution problem would be to remove all the unwanted foreign matter from all waters in the state. Since this is obviously out of the question, the next best solution must be found.

WE'RE THINKING HARD

Those who have given years of study and thought to the problem believe its best solution lies in two directions: the provision of as many new sources of water as possible, and the planned, selective use of more new sewage treatment plants of new design and greater capacity.

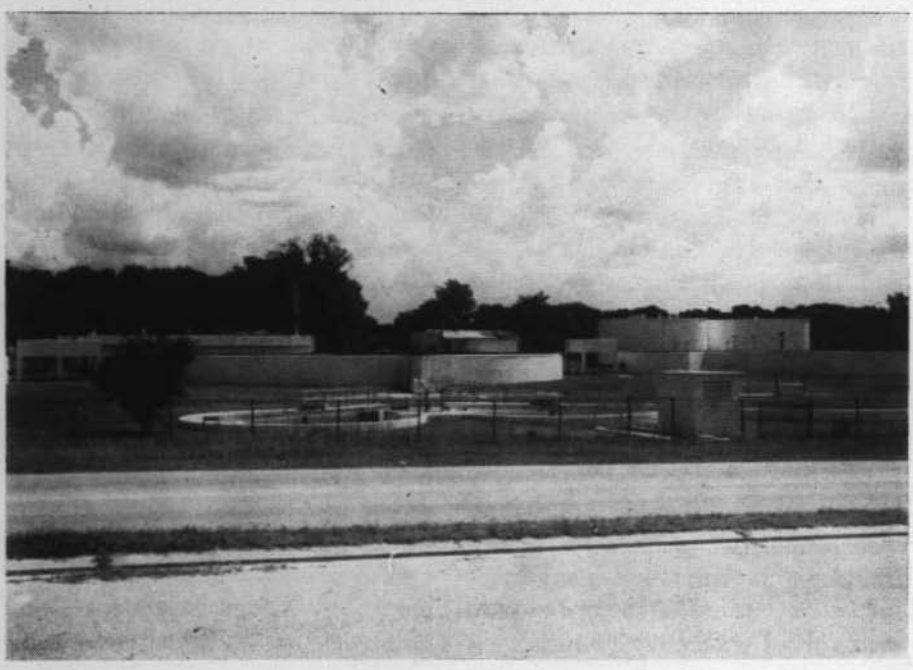
They also point out that we need to consider *new sources* of water and *new means of preserving* that which we now have.

The only sources of water not already in common use are the conversion of sea water and the seeding of clouds to produce rain. A number of experimental operations in sea water conversion are underway in various parts of the nation. Most of them are showing promise, but all of them at present show a cost per gallon which makes them impractical for general use at the present time.

Cloud seeding — that is, the spreading of chemical dust in the clouds to cause condensation and rain — is practiced on a limited scale today. It is not extremely expensive, but it does not actually produce more water; it merely controls or guides the fall of water that would eventually come down somewhere on land or sea.

Probably of more immediate value would be the engineers' suggestions for preserving the water supply we already have. These include the construction of more reservoirs, the use of chemical film on the surface of such waters and underground storage of water reserves to reduce evaporation. It is easy to see that these are practical and relatively inexpensive means of stopping some of the loss of water

This modern sewage treatment plant removes 90 per cent of the impurities from waste water before returning it to the waterways of the state.



which occasionally arrives in Florida in quantities too large for comfort. We can all remember recent rainy periods in the state when flood conditions prevailed and caused the remark that some of Florida's nicest homes had "wall to wall water."

VOICES OF WISDOM

There are voices being raised in Florida and the nation today urging that a few million dollars wisely planned and spent now might well be the best investment the state could make for the present and future well-being of its citizens and visitors.

Our Bureau of Sanitary Engineering at the State Board of Health has stated forcefully: "The entire future of water quality control and management lies in planning and zoning with political muscle." This statement is vigorously supported by the State Industrial Commission.

It is the feeling of these agencies that without such planning and zoning, properly supported by legislative action, those who are working, however diligently and earnestly, to solve today's problems with today's facilities and methods, will fall far short of meeting the needs of our rapidly expanding state.

Authorities estimate that by 1980 some three-fourths of the population of Florida, about eleven million people, will live in cities. This means an urban population some four times as large as we have today. These cities, and these people, will not be evenly distributed throughout the state. Authorities agree that they will be concentrated in the same places where we now find the greatest population centers, mostly along the lower east coast, and in such other areas as Miami, Jacksonville, Tampa, St. Petersburg and Pensacola.

What then do the planners recommend specifically as an answer to the water problems of these areas? First, let us start with the negative and review those means of obtaining water which are commonplace, but which are NOT practical for Florida communities.

* More artesian wells. Only a limited number of new wells could be drilled in most coastal communities without causing an underground suction which would bring brackish water into the system, because of the proximity of the ocean.

* Aqueducts. Some communities like New York City, obtain immense volumes of water from many miles away by constructing huge reservoirs in mountainous areas and piping the water by gravity flow to the city. There is no such source of supply in the vicinity of Florida's large cities. This means that the Florida peninsula, no matter how its population grows, will always be dependent upon the same sources and the same quantity of water that have existed in the past. It follows then, that *properly man-*

aged use of the present supply, *prevention of loss,* and *provision for the redemption and re-use* of as much water as possible are the answers to Florida's water problems.

Puting together the thinking of the people who consider these matters from all sides: need, cost, feasibility and long range practicality, we get these **positive** suggestions:

*More trained personnel is needed, at all levels, to plan, supervise and review projects for *water quality control.* These people are needed at both state and local levels, and should be supported with sufficient compensation which would prevent the serious loss of young personnel now being lured away from governmental agencies by higher salaries in private industry.

*The public should be better informed in the field of pollution, so that civic leadership and civic-minded citizens may add their weight to the public support needed by the lawmakers and public agencies who would offer to implement the solutions to these problems.

*Much greater emphasis should be given to the research facet of the pollution problem, so that engineering leadership could better guide the building and operation of facilities for handling the pollution problem.

*Finally, more, bigger and beter waste treatment plants should be constructed *now* to solve the state's immediate problems, and keep them from getting worse.

As one state official put it, Florida's pollution fighting resources are on a "fire fighter" basis, doing a here-and-now job of solving the problem of the moment for this or that immediate community. The regional engineer who should be spending time calmly helping to plan a clean water future for Florida is hopping from city to city advising on getting balky equipment working properly again, or showing a subdivision developer how to get the sewage out of the subdivision. Thus a primary treatment plant is built, and "Sunnyside Acres" contains no septic tanks, but the effluent causes the closing of a near-by beach. And so it goes. Local problem after local problem is solved, while conflicting interests pile up. It is the concerted feeling of the state's most experienced people in this field that only statewide zoning and planning can solve this problem.

Water quality control and management is a problem which has been recognized in Florida for many years. Back in October 1947, an issue of *Florida Health Notes* was devoted to the subject. After discusisng the situation as it existed at that time, the issue concluded with a statement which cannot be improved upon, and which serves just as well today for a final word. "Conservation of quantity and quality of water is a 'MUST' in Florida in order to provide for the further growth and development of our state."

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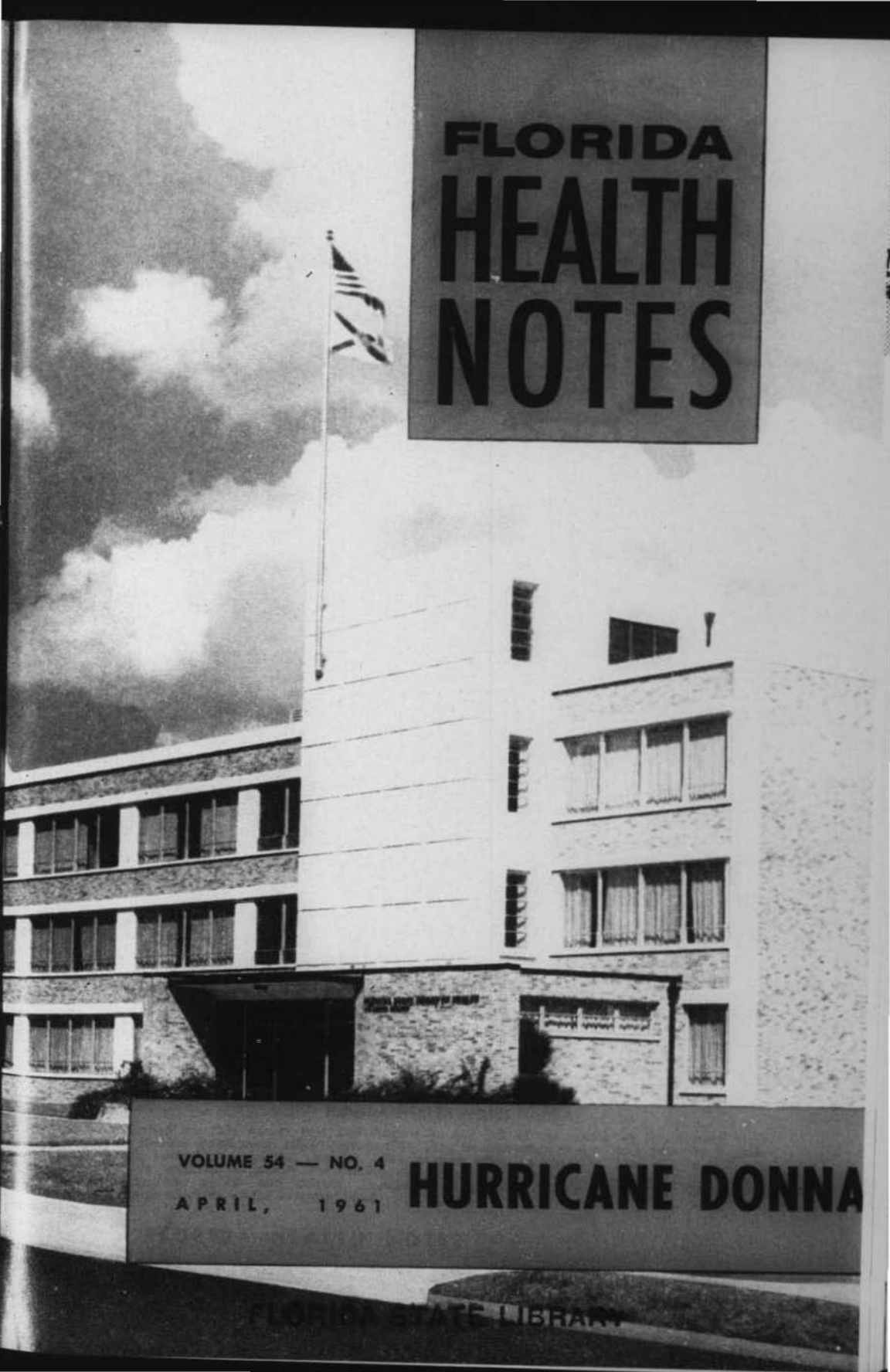
All counties in Florida have organized County Health Departments

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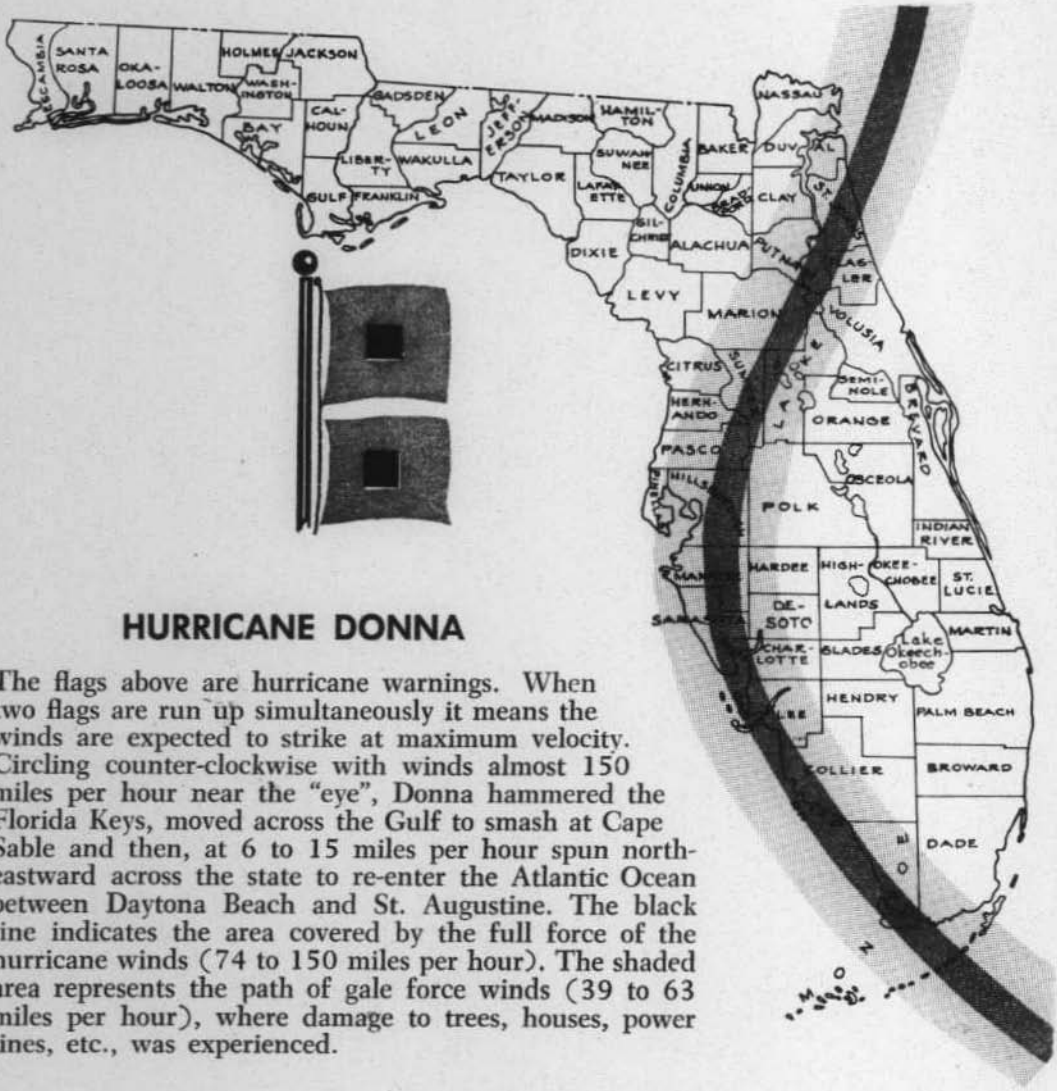


FLORIDA HEALTH NOTES

VOLUME 54 — NO. 4
APRIL, 1961

HURRICANE DONNA

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HURRICANE DONNA

The flags above are hurricane warnings. When two flags are run up simultaneously it means the winds are expected to strike at maximum velocity. Circling counter-clockwise with winds almost 150 miles per hour near the "eye", Donna hammered the Florida Keys, moved across the Gulf to smash at Cape Sable and then, at 6 to 15 miles per hour spun northeastward across the state to re-enter the Atlantic Ocean between Daytona Beach and St. Augustine. The black line indicates the area covered by the full force of the hurricane winds (74 to 150 miles per hour). The shaded area represents the path of gale force winds (39 to 63 miles per hour), where damage to trees, houses, power lines, etc., was experienced.



Several years ago a violent hurricane roared out of the Caribbean, feinted at the southern coastline and swept northward to strike at the nation's capitol. Floridians smiled tolerantly when a northern newspaper flashed the headline, FLORIDA HURRICANE STRIKES WASHINGTON. Tropical storms have struck hard at Florida in the past but many other parts of the country would find it hard to believe that for a number of years several eastern seaboard states have had far more hurricane trouble than Florida.

HOWEVER AS ALL THE WORLD KNOWS

In September of 1960 Florida was hard hit by Hurricane Donna. The storm struck at the comparatively isolated Keys, as well as other parts of Florida, notably the lower west coast. Low-lying and open to the raging fury of the winds and tides the Keys have no water supply of their own but receive it in pipelines from the mainland. Other health facilities are somewhat limited due to the nature of the Keys though the Monroe County Health Department, with headquarters in Key West, gives excellent service to its 100 mile stretch of separated communities.

When Donna was known to be headed for our coastline the State Board of Health and the County Health Departments on both the east and west coasts mobilized on a round-the-clock basis to begin preventive measures to insure the health of the people.

This issue of HEALTH NOTES is not intended to be a disaster manual. Instead, it is meant to show the necessity for and the response of the various health and related agencies, who mobilize and function in times

FLORIDA HEALTH NOTES

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of disaster. Therefore, the story we have to tell will dwell more on the *health aspects* of the aftermath of this particular storm.

Hurricane Donna was spawned in the Leeward Islands and began her 3000 mile trek with winds around 135 miles per hour. The first advisory on Donna was at 5 p.m. EST, September 2, 1960. She left 23 dead in the Lesser Antilles, moved north of Puerto Rico where she claimed nearly 100 lives and swept across the Bahamas.

PREPARATIONS

Two days before Donna struck Florida, a Central Office Disaster Committee of key State Board of Health officials was formed to operate on an around-the-clock schedule to answer inquiries on preventive health measures, relay messages to agencies and departments concerned and arrange transportation of emergency drugs and supplies. The path of Donna was charted almost hourly on a large map of Florida and the names of personnel stationed in specific locations posted. Contact with "ham" operators was set up for the lower part of the state. Telegrams were sent to all County Health Departments requesting personnel to make themselves available on immediate notice.

County medical societies, the Red Cross, the Salvation Army, Civil Defense and other agencies planned similar protective programs. For example, four days before Donna arrived, the Lee County Mosquito Control District installed mobile radio units in seven of their trucks and erected a concrete base station which "went on the air" Thursday night, September 9. An alternate station was established in the City Hall at Ft. Myers. Other radio installations were placed at the Community House shelter in Sanibel, a private home, the Tice shelter and in the business office of the Lee Memorial Hospital. Anticipating a tidal wave, arrangements were made for helicopter evacuation of residents on Sanibel and Captiva Islands. Many were evacuated this way, but some elected to remain because they did not wish to abandon their pet animals and birds. In St. Petersburg, the Pinellas County Health Department co-ordinated their activities with the Civil Defense authorities to maintain pumps and chlorinate water supplies. In Dade County a staff of nearly 100 public health nurses was recruited to assist in American Red Cross shelters with county sanitarians arranging for food, water and sanitary facilities. News media released information on emergency personal health, stocks of food, water, lamps and candles. As Donna came closer, health department employees moved into Civil Defense Centers. At Islamorada (one of the Keys) a shelter was established at the Coast Guard Building.

And so it was throughout the state—the Florida Department of Agriculture, the Department of Public Safety, the State Road Department and many others—all made preparations to meet Donna's fury.



For eight days while Donna's path was charted by Navy Hurricane Hunters and the Weather Bureau, strong gusty winds blew over south and central Florida. In three days 13 inches of rain fell and soils became soggy. Harvesting was interrupted. By Saturday, September 10, the gales had increased to between 70 to 90 miles per hour over most of the area. Communications to the Keys began to fail and in a short time contact had been broken over a 35 mile stretch from Tavernier to Marathon. Tavernier's last report to the mainland recorded 135 miles per hour winds early on September 10. Islamorada, nine miles south, once again became an island when bridges and approaches were washed away. The lighthouse on Sombrero Key, in the Straits of Florida south of Marathon, had wind gusts of 166 miles per hour velocity at 2 a.m. Barometric pressure dropped to 27.89. About 300 of Marathon's 4700 residents rode out the storm atop tables, beds and dressers in trailers and other dwellings. In the Marathon-Tavernier area, it has been estimated 85 per cent of the buildings were destroyed or severely damaged. Key Colony, the only incorporated community other than Key West, was totally demolished.

The storm blew up to 100 miles per hour across Cape Sable. Everglades National Park officials said later that the Flamingo section was submerged under 14 feet of water.

In the Gulf of Mexico, Donna veered northwest through Everglades City and an 11 foot tidal wave wiped out nearly half of the buildings and left mud and debris on the streets and inside houses. Some areas

were under seven feet of water for 10 hours. For three days during the storm evacuees huddled on the second floor of the Courthouse where an emergency clinic and immunization station was established. Collier County Health Department records were a total loss under five feet of water even though they had been placed high off the floor. Naples had winds up to 120 miles per hour. Shortly after the storm "eye" passed this point the wind action was reversed from northeast to southwest. This switch and the low pressure of the "eye" caused rapidly rising tides up to 12 feet, leaving at least three feet of seaweed, fish and filth inside homes and on the roads. Donna reached Ft. Myers about noon with the "eye" passing over the city at 2:30 p.m. Winds were constant and powerful. Tides rose to seven feet above normal and damage in densely populated Ft. Myers ran into many millions of dollars.

Taking a northeast course across Florida, the hurricane passed through the central citrus growing areas. At 7 a.m., September 11, Donna moved out into the Atlantic with winds of 99 miles per hour at Flagler Beach, midway between St. Augustine and Daytona Beach. Then she curved north on her destructive path.

After zigzagging through Florida she went up the coast and over the northeastern part of the United States from Long Island to Maine. Over 30 lives were lost in the various states, 11 of these in Florida. Deaths were unusually low considering the intensity of the storm and the extensively populated regions through which Donna swept.



THE AFTERMATH

Over the Keys and in Collier, Polk, Lee, Charlotte and other counties Donna left a mass of tangled trees and shrubs, smashed chairs, overturned automobiles, demolished trailers and boats and splintered and gutted buildings. Above all was the stench of rotting seaweed, animal and marine life. The odor became worse as foodstuffs in stores, restaurants and homes began to spoil because of lack of refrigeration.

As soon as winds had subsided enough for safety outdoors, rescue teams searched for bodies in the wreckage of thousands of homes, shattered vessels and upturned house trailers. Clothing, stoves, refrigerators, air conditioners, mattresses, crawfish traps and thousands of other items were a jumbled mass on the ground, in the trees and hanging from telephone and light wires. A week after Donna's visit some of these same items were seen adrift in the Atlantic and Gulf five miles from Florida shores.

TO WORK

The State Road Department began an immediate cleanup of the main road arteries. Telephone and power companies dispatched work crews. The National Guard, County Sheriff's Departments and State Highway Patrol went on duty to prevent looting and maintain order. City and County Commissioners met in emergency sessions. Inspections were made by air to ascertain the amount of destruction and the health needs. President Eisenhower declared Florida's hard hit sections major disaster areas. The Federal Housing Authority began to function for those holding FHA mortgages. The Small Business Administration began to arrange loans to assist those qualifying under their regulations. And so on.

But health authorities were concerned about outbreaks of food poisoning, amebic dysentery, infectious hepatitis, influenza, typhoid and other illnesses which may come after lands have been overrun with water, filth and debris. Teams of doctors, nurses and sanitarians from the State Board of Health, U. S. Public Health Service, County Health Departments, hospitals, county health and medical groups and private physicians entered the disaster area to establish emergency clinics and treat minor injuries and shock victims and to give typhoid and tetanus shots. The Red Cross, Salvation Army, Civil Defense and others also moved in. Undoubtedly, because of the immediate precautions taken not a single case of communicable disease was reported in the entire state as the result of Donna's visit.

Through the years Floridians have learned a preparedness procedure for hurricane alerts. As soon as it appears likely that a hurricane will visit an area the residents begin to put up the storm shutters, store away all loose objects such as lawn chairs and garbage cans, and securely fasten garage doors and windows. In the house, candles and kerosene lamps are broken out and a supply of matches laid by each. New batteries are purchased for flashlights and portable radios, if needed. Where available, dry ice is purchased and placed in food freezers and tubs and other containers are stocked with ice in event of power failures. A supply of canned goods is purchased as well as canned heat for cooking. Several large bottles or other types of containers are filled with fresh water and as an added precaution the bathtub is also filled.

With preparations complete the family draws into its protective shell to wait patiently until the storm has blown itself out. They are kept abreast of its progress by means of the battery-powered radio and are careful not to go out while the "eye" is passing over.

When the storm has passed they come forth to clean up any debris or litter and to give less fortunate neighbors and friends a helping hand. In a way it's quite an experience and to some it is an exhilarating break in the monotony of everyday living!

A FIRST!

For the first time in Florida's hurricane history a relatively new laboratory technique was used to test for water pollution. The membrane filter water test determines water contamination in 18 hours instead of the usual two to four days. Temporary water laboratories were established in the storm damaged areas by the State Board of Health's Bureau of Laboratories. In Dade County alone sanitarians collected, during September, 1449 water samples from public drinking water sources, private wells and cisterns.

Six thousand feet of water main supplying the Keys were damaged by the storm. The U. S. Navy, which maintains the aqueduct, began repair work at once. On September 20, ten days after Donna, Key West residents received their first water from the pipeline but were restricted from using it for any unnecessary uses, such as car washing, lawns, filling swimming pools and the like. The Florida Keys Aqueduct Commission had two storage tanks of water but lack of pressure and breaks in the system prohibited its use. Later, however, valves were installed on the tanks and it was drawn by the pailful, after being chlorinated because of the questionable condition of some of the containers people used for carrying water home.

A CUPFUL AT A TIME

In Everglades City water was trucked in from Miami and rationed by the cupful. Beside spigots on the trucks appeared signs, "For Drinking Only." There were no bathtub rings in these areas. A Miami brewery filled 6000 beer bottles with water and trucked it to sections where it was scarce. A milk company bottled water in disposable cartons. The Navy, Red Cross, Civil Defense and National Guard brought in tanks of water.

In Marathon and vicinity hard liquor sales were prohibited although beer sales were allowed from noon to 3:30 p.m. then extended to 6 p.m. Cases of non-alcoholic beverages were brought in and these were distributed from shelter areas. On the west coast a supply of carbonated drinks, adequate for the community, was condemned because flood waters had forced silt inside the bottles even though they were capped.

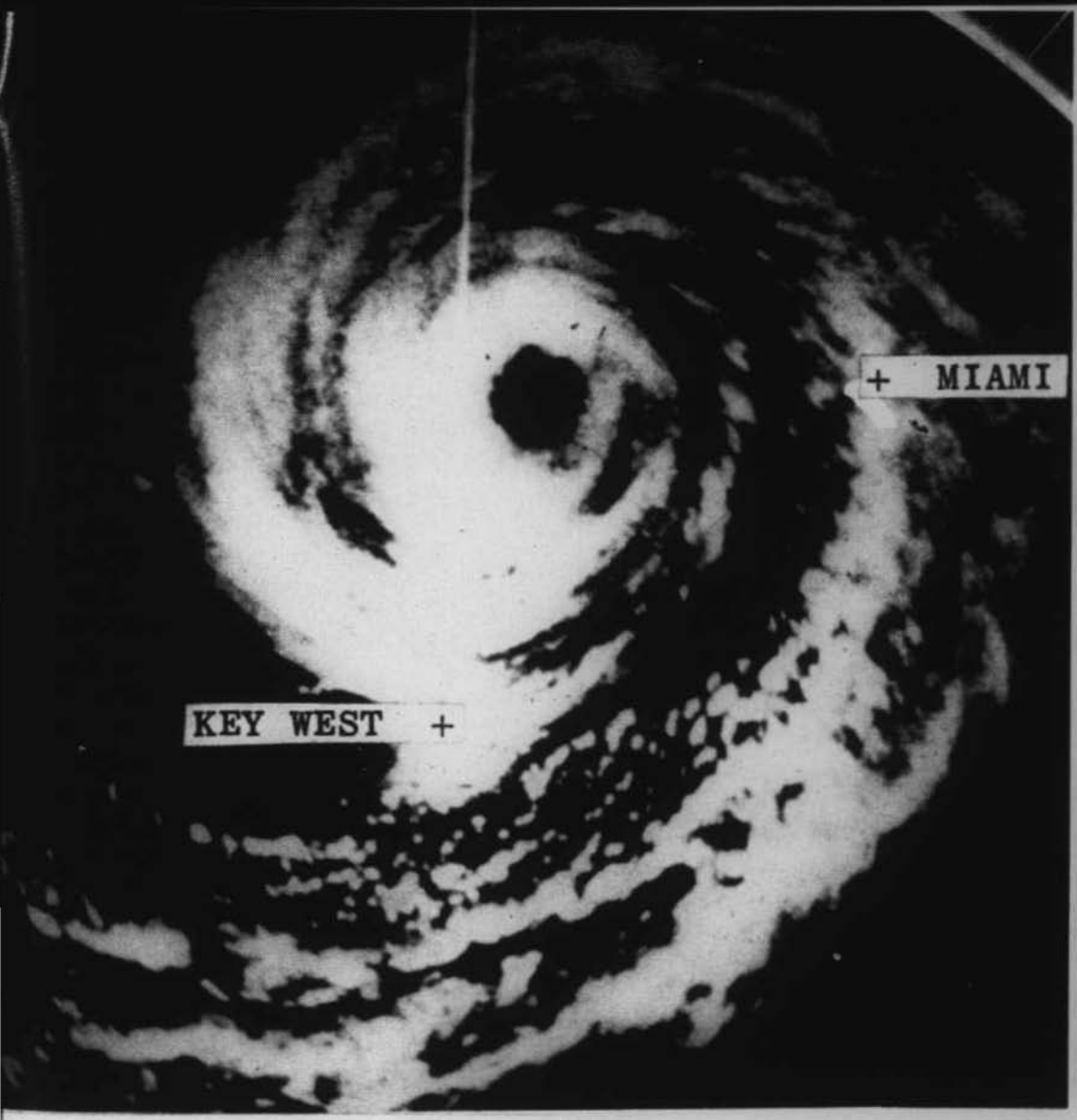
STEAK ANYONE?

Restaurants and grocery stores were not allowed to open for business unless inspections had been made by local, state or Public Health Service



A ONE-EYED CYCLOPS!

A hurricane is a cyclonic storm moving counter-clockwise with a speed of six to 15 miles an hour. In the center of the round moving mass is an "eye." From the fringes of the circle to the "eye" winds will vary, according to the intensity of the storm, from 75 to 150 miles an hour. In the "eye" there is a small area of comparative calm. After the first half of a hurricane has passed, persons untrained in the ways of tropical hurricanes may venture out only to be caught by the full force of the second half of the storm. Due to the hydraulic pressures of waves and tides, most of the damage comes from water forced ahead by high winds. Duration of the storm is usually from four to eight hours. Old-timers claim that hurricane danger exists from the first full moon in August to the first full moon in October. The official hurricane watch by the weather bureau begins June 15 and ends November 15.



photograph of Donna as it appeared on the PPI
of the WSR-57 radar at Key West at 1340 G.M.T.
nber 10.

PHOTO COURTESY U.S. WEATHER BUREAU

sanitarians. In many instances foods which could be salvaged were donated by owners to the food kitchens. Many a family sat down to a number of excellent steak dinners.

In Dade County over 7000 pounds of food were condemned when light power failures shut off refrigerators and freezers. In an effort to save refrigerator contents it was not an uncommon sight in the Keys, or in lower west Florida, to see deep freezers being hauled by truck to sites where electricity had been restored. Cooler boxes sat in front of filling stations and behind stores. A single house where electricity was restored might have several boxes on the porch.

Rotting food, garbage, debris, animal carcasses, fish, etc., were collected and burned.

★ ★ ★

Items appearing in newspapers following Donna

ADVERTISEMENTS:

"Salt water soap. Lathers in sea water. Ten cents a bar. Perfect for ocean bathing!"

"Plenty of cistern water available to any beautician and use of our facilities free of charge."

Apt. to rent—"Plenty of water—we have our own cistern."

Room to rent—"Water included for $10."

"Waterless cream-type hand cleaner."

"Disposable diapers. Selling at discount during present water shortage."

BOXED NOTICE:

"People found looting houses at night will be FOUND THERE the following morning!"

FILLER:

"A saltwater bath followed by an alcohol rub will refresh you and conserve a limited water supply."

HEADLINE:

"Water's On, Y'all Can Take A Bath"

★ ★ ★

Two months after Donna had visited Florida, the State Board of Health, Division of Health Information, made a routine check to correct mailing addresses of HEALTH NOTES. One of the inquiry cards sent to Marathon returned with this comment: "Very interesting and informative. I kept all copies on file until Donna blew them away."

A SPECIAL PROBLEM

Sanitary disposal of body wastes presented a problem because there was no water or water pressure. People were urged to carry salt water from the ocean for flushing purposes. Owners of septic tanks and cesspools were given instructions how to deal with waste disposal when these facilities became inoperable because of flooding. In the Keys, the Navy built privies for many of the residents.

RATS

Another health hazard presenting itself in some areas was an influx of rats to high ground. In south Florida 5000 poisoned meat balls were scattered by boat and helicopter in rodent control programs. There were a few snake bites reported when reptiles sought shelter in homes, on venetian blinds or in vehicles. One truck was used three days before a rattlesnake was discovered under the driver's seat. Needless to state, after this discovery great caution was taken before getting into automobiles.

GRATITUDE

It would be almost impossible to report on the work of all the agencies who shared in helping solve the problems Donna left behind her. Here are a few of them:

In Arcadia 6000 persons in three days were given typhoid and tetanus shots while in Dade County eight clinics were established which administered 18,642 immunizations in 20 days. At Everglades City a number of Seminole Indians, from deep in the Everglades, came to the mobile unit and wanted to be immunized. At Islamorada and Marathon local and state health officials administered immunizations at shelters, clinics and even at road blocks set up by police to keep out the curious, looters and "freeloaders" at the food lines. In Naples more than 2000 typhoid shots were administered by the health department officials.

Feeding people in disaster areas is always a problem. In Everglades City two meals a day were served to all comers. Menu: grits and gravy, beans, canned luncheon meat and coffee. The Navy set up a "chow line" in the Marathon Fire Station which was later moved to the American Legion hall when the Red Cross took over. A local restaurant owner supervised the cooking. Islamorada residents were fed at the Methodist Church by the Red Cross.

In Polk County failure of electricity resulted in the condemnation of $60,000 of frozen foods. In West Palm Beach, Fort Lauderdale and Miami the Salvation Army held in readiness 77 officers, six canteens and other mobile equipment as well as cots, blankets, food and other supplies. After Donna had passed they moved into the area, bringing this equip-



ment and materials with them, along with 250 gallons of water. The Salvation Army served 9155 meals, aided 6303 persons and distributed garments, shoes, etc., to 12,695 others. In addition, they also served ice, water, sandwiches, soft drinks, coffee and doughnuts to hundreds of people at Fort Myers Beach area, Everglades City, Chokoloskee, Goodland and Marco.

Prior to Donna, information on availability of food from local commodities was given to Civil Defense, American Red Cross, school officials, etc., by the State Department of Public Welfare. Because of the rapid recovery in most areas only 221,378 pounds of the available 828,770 pounds were distributed.

Hospitals in Dade County prepared themselves to care for women six months or more pregnant. Atmospheric pressure, excitement and fear during hurricanes tend to send prospective mothers into premature labor. Jackson Memorial Hospital in Miami received 144 expectant mothers. Sixty-six babies were born during the time Donna raged, setting a new hospital record.

Residents whose homes blew away around them were treated for shock. Others received medical care for body cuts caused from splinters of wood, stone and glass when concrete block and frame structures exploded.

Mental disturbances triggered by stark reality of property losses and adjustments still existed five months after Donna's visit. "Hurricanitis," as it was termed by local physicians, resulted from persons being unable

to comprehend the complete destruction of properties, homes and industries for which they may have worked a lifetime. Diagnosis was made on the assumption that some people have general anxieties and fears which are aggravated by occurrences such as Donna. Men and women who stayed during and those who returned after the storm were equally affected. Symptoms were similar to those of nervous exhaustion—insomnia, depression, frustration, vomiting, lack of appetite and stomach pains. A few cases were hospitalized. The cure? Confinement in bed or a complete change of residence for several weeks.

One physician observed that people completely lost their sense of time. Nurses who had been on duty 36 hours without a break, although able to perform their professional duties had no idea what day or hour it was. There was a complete absence of panic. People performed with an instinct for survival and became welded together for a common good. The excellent handling of wholesale immunizations, water pollution problems and removal of debris, carcasses and sewage resulted in low disease incidence.

Leaflets were distributed advising people to boil all drinking water, be immunized at emergency clinics and keep children from playing in sewage-contaminated pools, streams and lakes. Similar pamphlets were dropped by airplane over Goodland and Marco. Loud speakers mounted



in motor vehicles gave announcements of location of clinics in Collier and Hardee Counties. Civil Defense handbills informed citizens when utilities would be restored and the location of emergency water supplies and Red Cross shelters.

The only non-mud-spattered vehicle in the town of Everglades was the mobile trailer clinic loaned by Broward County Health Department. A Broward public health officer and nurse operated the vehicle until relieved by State Board of Health and Red Cross personnel. The clinic was well patronized and even 10 days after Donna 300 persons showed up to receive immunization and medical care.

A Navy helicopter moved traffic from Tavernier to Islamorada.

One nurse at a schoolhouse shelter was glad to see rescue teams for she had moved her 90 charges, half of them children, from classroom to classroom as roofs and walls vanished.

Residents became lost right in front of their homes because all landmarks were gone—signs, shrubbery, trees, etc. Paint was sandblasted from buildings and automobiles by the driving sand.

THE AMERICAN RED CROSS

Gave emergency mass care to 125,000—some for as long as three weeks. They also gave relief to 4648, spent $1,343,769 in 39 counties for relief expenditures, furnished 1891 families with emergency funds for home repairs, rebuilding or replacement, helped another 1162 families purchase furnishings or other essential needs, and helped 200 families with funds to restore businesses or other occupational needs. A similar number were aided with funds for hospital bills or medical care.



STATISTICS

Fatalities, sickness and injuries from Donna were comparatively slight when it is considered that she swept through an area where a third of Florida's population of 4,951,560 reside. There were only 151 cases of injury or illness, 1643 minor injuries and 122 persons hospitalized. This fortunate outcome is attributed to accurate and timely warnings, prompt and efficient preparations of the government, welfare, civil defense and public health groups and the cooperation of the general public. On the other hand, forestry, property and agricultural destruction amounted to nearly $350,000,000. A Florida Civil Defense Agency survey indicated that 1844 homes were destroyed, 3253 received major damage and 30,818 sustained minor damage. A total of 710 farm buildings were demolished with major damage to 1454 and minor damage to 2754. Losses to business firms, dwellings, industry and public and private utilities were over $250,000,000. Citrus losses were equivalent to 15 to 20 million boxes of fruit blown from the trees. At least half of the grapefruit crop lay on the ground. Peanuts, about 60 per cent harvested and stacked for drying, were damaged by rain. Replanting of most vegetable crops and acreage was necessary. Florida's agricultural losses were estimated at $50,000,000.



Florida has been lashed by hurricanes before—often with resulting death and destruction. The 1928 hurricane that brought death to more than 300 residents in the Lake Okeechobee area, and the 1935 hurricane that blew away a railroad work camp on Matecumbe Key and killed a number of employees, are still remembered throughout the nation.

Today, a far-flung hurricane watch for the entire nation has been established. Residents are given adequate warning to prepare for the blow. Relief agencies have adequate time to muster their forces. Added to this are round-the-clock services of our health departments which drastically reduce the dangers of illness and death from injury or disease.

FUTURE PLANS?

Possibility of having several mobile trailer clinics for the multiple purpose of immunization, medical care and water pollution study laboratories.

A ready supply of "Precaution Handbills" to include the following information:

1. Boil drinking water at least five minutes or add one-half teaspoon iodine or other bleaching agent to one gallon of water.
2. Stock larder shelves with containers of water for drinking and cooking, a Sterno Stove, canned vegetables and meat, flashlight and batteries.
3. Open and close windows in house to equalize pressure of winds outside and possibly use an attic fan.
4. Board up windows and doors with hurricane shutters. Local carpenters are usually experienced in putting them up fast. Many shutters are precut to be fastened on quickly.
5. Areas immediately adjacent to water are always potentially dangerous. Locations two or three blocks from the water and in the center of town are much safer.
6. Listen to radio and television broadcasts or read newspaper weather reports. The latter are from ships at sea, weather stations and from Navy Hurricane Hunter planes which fly into the storm and send location reports.

Possibility of having tight, uniform building codes for all structures including trailer homes. It is noteworthy that homes built on stilts, such as the Indians erect, are not too often damaged by winds and high waters.

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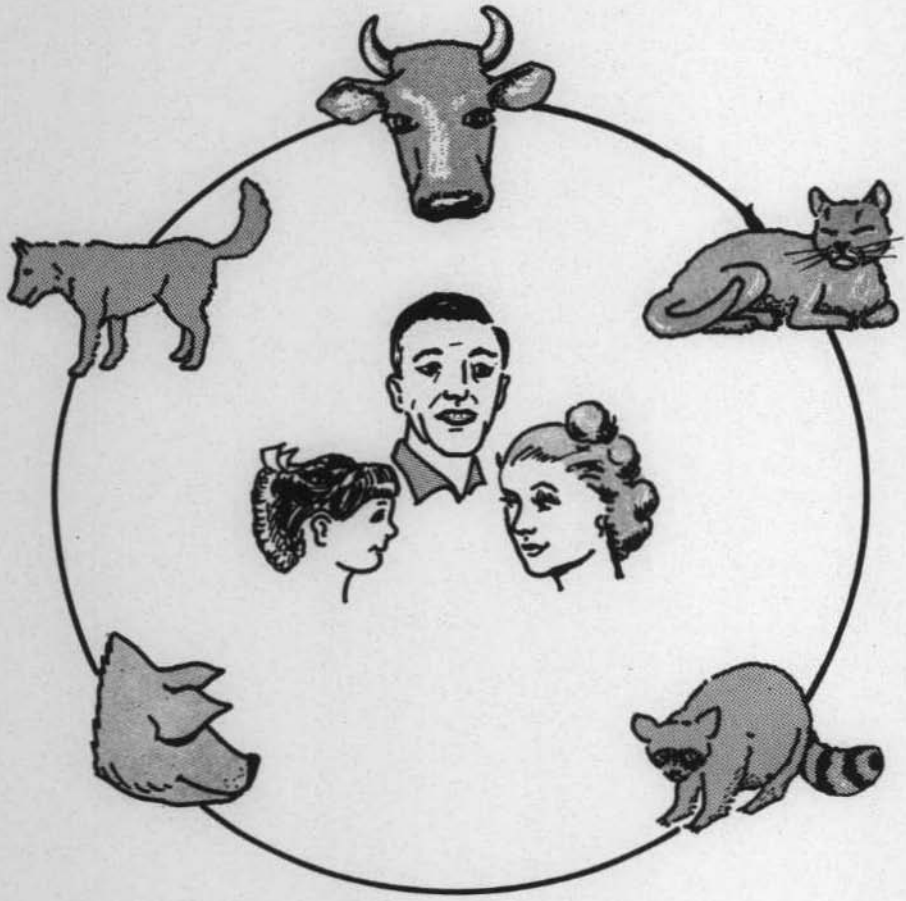
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FLORIDA
HEALTH
NOTES
DISEASES OF
ANIMALS



The World Health Organization lists more than 100 diseases of animals that are transmissible to man.

DISEASES OF ANIMALS TRANSMISSIBLE TO MAN

MOST people are aware that there are diseases of animals which are transmissible to man. Sometimes because of real concern for the health of their pets, but more often because of local ordinances, citizens see that their dogs and cats are immunized against rabies. A few know that such diseases as tuberculosis and undulant fever may be contracted from infected cattle, but for the most part there is little public knowledge of the activities of the State Board of Health and your County Health Departments in preventing and eradicating these diseases.

Excluding rabies and encephalitis, which can be fatal, most of the animal diseases cause more annoyance than actual illness. Creeping eruption (larvae migrans) and ringworm can make the victim very uncomfortable and can be serious enough to require medical attention. Others, such as leptospirosis, undulant fever and trichinosis, while rarely fatal, can make the victim extremely ill followed by a long convalescence.

Through the years the constant vigilance and attention to every minute detail of animal health problems has resulted in a continuous downcurve of the animal diseases which might affect humans. This has resulted in bringing about a great measure of prosperity over the years to our farmers and industries that use and process livestock products. It has saved countless dollars and has prevented losses in important foodstuffs such as milk and eggs, hides and wool, and unnecessary deaths among livestock, poultry, pet animals, birds and wild animals.

Public health people know that veterinary medicine is much more than caring for domestic animals or pets or the operation of an animal hospital. Working cooperatively, veterinarians and public health authorities have made considerable progress in curbing such diseases as anthrax, brucellosis, rabies, trichinosis, tuberculosis and other *zoonoses* (diseases transmitted among animals and from animals to man).

The recent World Health Organ-

ization Expert Committee on *Zoonoses* lists more than 100 animal diseases transmissible to man, in addition to a number of other infections common to both man and animals. The way these diseases travel from animals to humans is comparatively simple. The person gets the disease either through the food he eats, from insects, or from contact with the animal. To stamp out a disease the health authorities first determine the source and method of transmission and then try to break the chain. If it is coming from a certain type food, this food is no longer permitted to be sold. If the disease is coming from insects, attempts are made to control them. If sick animals are spreading disease to well animals they are either treated to cure the disease, vaccinated to prevent it, or destroyed to prevent its spread. We do not have space to talk about all the diseases listed by the World Health Organization Committee in this issue of *Florida Health Notes*. But we can discuss which are most prevalent and which cause the greatest problem in people and animals.

Rabies affects both man and animals. Rabies is one of the most important diseases of animals that concerns the State Board of Health. The problem is measured by the number of persons, usually children, who must take antirabies treatment after being bitten by rabid or suspected animals. Four hundred and three people were treated with antirabies vaccine in Florida during 1960.

Dogs, as one might expect due to their close association with people, are the greatest offenders when it comes to biting, followed by cats, and wild animals such as the raccoon, fox, skunk and bat.

Health officials have long known how to control domestic or dog rabies (when the dog owning public cooperates). First, there must be vaccination of all owned dogs: pets, working and hunting dogs. The latter are most important as they may be exposed to rabies in wildlife. Second, it is important to control the stray dog. This calls for a designated place where dogs can be penned up as well as picked up by an official agency, both carried out in a humane manner. These recommendations should include cats as they have rabies more often than dogs and usually expose more humans when they develop the disease.

In Florida, wildlife rabies is the major problem. The raccoon, fox,

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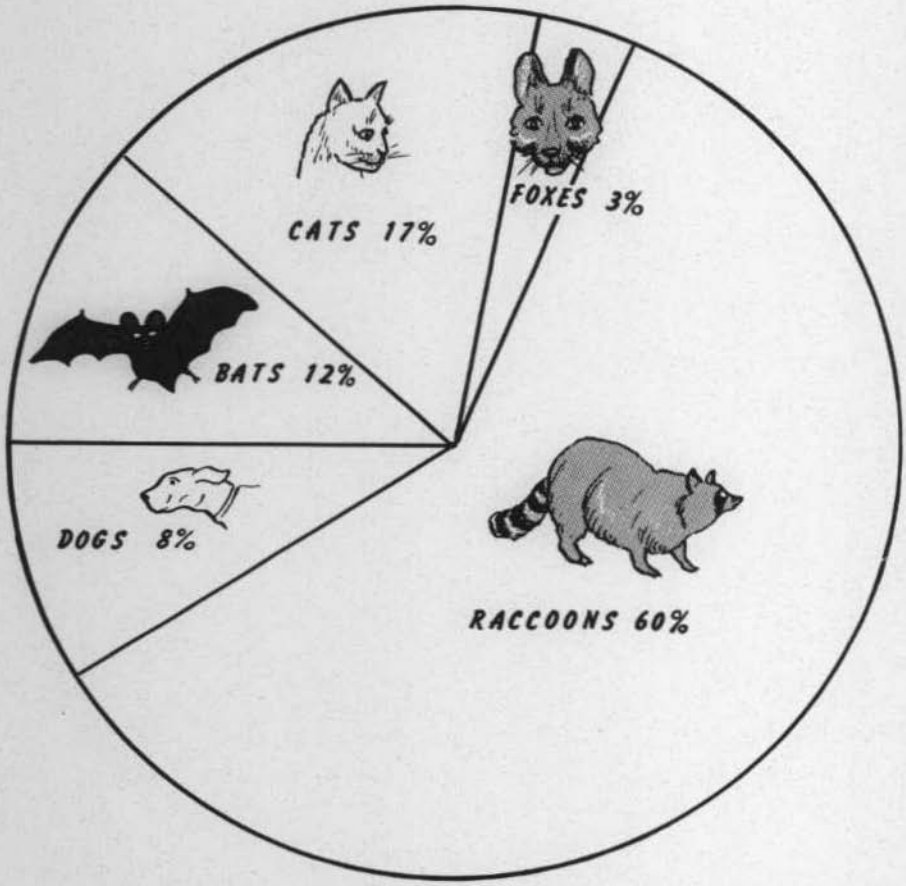


This dramatic photo of a bat shows its sharp teeth that could cut the skin and transmit rabies—if the bat was rabid.

bat and skunk have been found infected with this disease. Rabid foxes have been found mostly in west Florida while the raccoon has been noted in the peninsular section of the state. Rabid wild animals lose their fear of man and often wander into populated areas and may appear to be pets. Such animals should be avoided. Call your County Health Department and tell them if you see such an animal. Above all, warn your children never to approach or touch such an animal.

Anthrax, a highly fatal disease of cattle, sheep and hogs also affects man through contact with the infected animals or their products, such as hides and wool. This disease has occurred sporadically in Florida in the past. As late as 1951 to 1954 a severe outbreak occurred involving 18 ranches and 7 dairies in 5 counties, with a loss of approximately 500 cattle. Five human cases occurred during this period. The State Board of Health and the Animal Industry Department of the State Department of Agriculture are constantly on the alert for this disease.

Brucellosis, sometimes called un-



The above chart shows the occurrence of rabies in animals in Florida in 1960. The raccoon far outnumbers his nearest competitor, the cat, while dogs are fourth in line.

dulant fever, is an infectious disease transmitted to man from cattle, hogs or goats. It is seldom fatal but may cause a long illness, sometimes measured in years. Relapses are common. This disease in the human has been greatly reduced by the pasteurization of milk, but it may also be contracted by contact with the infected animal. Brucellosis in man can disappear only when this disease is conquered in animals. Through the testing of cattle, sheep, goats and hogs, removal of the infected animals, and vaccination of the young calves to prevent the infection, great strides have been made. Florida dairy and cattle men in cooperation with state agencies and veterinarians, have reduced the infection in animals and consequently in man.

Eastern Equine Encephalitis is a brain infection caused by a virus and occurs throughout the state. This disease occurs in horses and is commonly known as sleeping sickness or staggers. Actually, this disease is misnamed as it places the emphasis on the horse who is only the "incidental host," or the animal through which the disease passes in its spread. In Florida the virus is found mostly in the wild bird population. Mosquitoes spread the virus from bird to bird. When epidemics occur in this bird population it may spill over into horses or humans. Mosquitoes, after feeding on birds, which are carrying the virus, may complete their blood meal on horses or man, thus infecting them.

This disease is highly fatal to horses and men. Epidemics occur periodically. Through veterinary research a vaccine has been produced which may be given to horses. This vaccine should be given in the winter when there are few mosquitoes. It must be given every year. Man's best protection is through mosquito control measures, including well-screened homes.

Tuberculosis in cattle is trans-

Your dog should be taken to your veterinarian to receive his annual rabies shot.



Somewhere down through the years people have gotten the impression that if an animal bites someone it should be immediately killed and the head sent to the laboratory for examination. *This is not true.* The incident should be reported at once to the County Health Department. One of their sanitarians or the county dog warden will contact the owner of the animal and it will be impounded. This will keep the animal from biting anyone else and also make it available for observation. *If the animal has rabies it will begin to develop recognizable symptoms within two weeks.* After symptoms develop, the bitten person will then have to take the antirabies shots. If the animal is killed before the symptoms have had a chance to develop, a valuable pet may have been destroyed unnecessarily and the antirabies shots must be started immediately (even though subsequent testing of the animal head reveals no trace of rabies)—because no one takes a chance with this dread disease.

mitted to man through eating the meat or drinking the milk of infected cattle. An extensive campaign to eradicate bovine tuberculosis in the United States by the U. S. Department of Agriculture and the various states was carried out by the testing of all cattle and the disposing of those reactors which showed they had the disease. This was followed by repeated testing of infected herds. Before the pasteurization of dairy products, many a youngster had tuberculosis of the bone caused from drinking infected raw milk. Now the hunchback, a condition sometimes caused by this disease, is rarely seen.

Florida's laws and all city and county laws require the annual testing of dairy cattle for tuberculosis, but the disease still exists to a limited degree. Pasteurized milk is the safest. The family milk cow should be tested for both tuberculosis and brucellosis before one drinks its milk raw.

Leptospirosis, sometimes called Weil's Disease, swineherds' disease and autumnal fever, is a disease of man and animals caused by a spiral-shaped organism called "leptospires." It was once considered a rare disease, but is now quite prevalent. It is transmitted from animal to animal and from animal to man from direct or indirect contact with the urine of infected animals, such as rats, dogs, cattle and swine. Recently several species of wild animals: opossums, skunks, raccoons, foxes, etc., have been shown to carry the infection.

Leptospirosis organisms usually enter the body through the mucous membranes of the eyes, nose or mouth or through a break in the skin. The spread may occur through

moist soil and stagnant ponds or slow moving streams which might be used for swimming or wading.

One outbreak in the files of the State Board of Health describes the illness in a group of youngsters who used a certain favorite swimming hole in a creek for summer fun. When they developed leptospirosis, health authorities found that further up stream the urine from infected cattle and hogs was being drained into the creek, and the children had contracted the disease from the water in which they swam and played.

The infected individual suffers from nausea, vomiting, chills followed by fever, severe headaches, muscular aches and pains, and sometimes jaundice. The danger from the disease can be reduced in both animals and man by strict sanitation measures. Muddy farm areas should be drained, rats destroyed and drinking water for both humans and animals protected from contamination. Swimming should be avoided in waters where cattle and other animals frequently wade and drink.

Ringworm in cattle, horses, dogs and cats occasionally infects humans. In the horse it is carried from horse to horse by harness and saddles, usually around racing stables,

The hog who feeds on uncooked garbage can transmit trichinosis to humans.



and subsequently to the groom and attendants. The cow may infect a person who milks or cares for it. The most common source of ringworm spread from animal to man is through a pet. Any dog or cat which has a suspicious "circular" lesion (sore) should be taken to the veterinarian. In cats the ringworm sores are usually on the nose and tip of the ears and this pet may not be suspected until ringworm appears on the children. If this happens the cat should be examined by a veterinarian who will usually put him under a Woods (ultra-violet) lamp so he can make an accurate diagnosis.

Trichinosis in man comes from eating uncooked pork which contained a small parasite (worm). If the pork is eaten raw, or is insufficiently cooked, these worms may multiply in the person's body. There is no known way to kill the worms in the muscles. The patient suffers from nausea, vomiting and diarrhea. Pneumonia may be a complication. To stop the spread of trichinosis and other swine diseases, laws have been passed making it unlawful to feed uncooked garbage to hogs.

Creeping Eruption (larvae migrans) is a common skin disease of humans, especially among children, utility workers and gardeners. It is acquired by contact with the stools of the dogs and cats infected with hookworm. The larva of this hookworm, a very tiny creature, enters and burrows under the skin, usually traveling in one direction, causing intense itching. These sores are easily recognized by a doctor who should treat them. If your pet is the guilty one, he should be taken to a veterinarian who will determine if he has worms and give him the proper treatment.

THE CEASELESS BATTLE

What has been done to help protect Florida's citizens from these diseases we have just discussed? First, constant vigilance by agriculture and health authorities, local physicians and veterinarians — all working together. There is constant study to find better ways to detect and control these diseases of animals that may be passed on to man. Legislation providing for the inspection of most meats and meat products has been enacted. In the slaughterhouses, inspectors from the State Department of Agriculture carefully examine each animal before, during and after slaughtering. This protects you from buying meats that may cause illness. *Look for the stamp of inspection.*

Creeping eruption and ringworm are two of the most annoying diseases that man can get from animals. Plumbers, electricians, pest control operators and others whose jobs require them to crawl about under houses find creeping eruption their greatest occupational hazard.

Dairy and cattle herds are inspected at regular intervals to see if they are infected with tuberculosis or brucellosis. Animals are destroyed which are found to have these illnesses to protect both the public's health and the animal industry of the state.

An important part is being played daily by the veterinarians in Florida. When they diagnose any of these illnesses in pets, or other animals brought to them for treatment, they warn the owner and report the condition to the County Health Department and the State Board of Health. This is preventive medicine of a high order and such cooperation has prevented the spread of disease many many times.

WHAT CAN YOU DO?

There are several important things that you, as a citizen, can do to help prevent the spread of diseases from animal to man. First, your pets should be given their chance for good health. Your dogs and cats should be inoculated against rabies. If all pets were so inoculated there would be no rabies problem. The control of rabies among wildlife is handled by the field personnel of the State Board of Health and the Fresh Water Fish and Game Commission.

Your veterinarian can test your pet for animal hookworm and give him drugs to eliminate the worms when they are suspected. This will prevent you and your children from exposing yourselves to "creeping eruption" and the discomfort and illness that go with it.

Provide adequate space for your animals but keep them in your own yard. When animals are allowed to roam they increase the danger of exposing themselves to disease infection from other animals. After handling your pets, follow the dictates of good personal hygiene and wash your hands thoroughly with soap and water before handling food or putting your fingers near your mouth.

If your pets show any signs of illness take them to a veterinarian. There are infections that may be transmitted from animals to humans. Take no chance — let the doctor take over.

Try always to buy meats that have been inspected by either the State Department of Agriculture or the U. S. Department of Agriculture. The label on the package will assure you that at the time of slaughtering the meat was in good condition and free of disease. Look for the Inspection Stamp (the stamp of approval).

And, finally, work with your County Health Department and the State Board of Health in their efforts to protect you by preventing diseases before they gain a foothold in the community.

AN EXAMPLE

Tracking down a particular disease so it can be eliminated from the public health picture is usually a story of hard work and long,

tedious hours. There are times, however, when it becomes dramatic. For instance: when, in 1959, a number of cases of encephalitis were reported in a Florida county, the Division of Veterinary Public Health swung into action to locate the source and stamp out the disease.

Since it is known, from past research, that the virus causing this particular illness is carried by wild birds and transmitted to animals or humans by mosquitoes a carefully planned course of action was undertaken. In a selected area of swampland a number of nets were put up to trap birds. Mosquito traps were also employed to obtain samples of the various types of mosquitoes and to test them to see if they were carrying the virus.

Research scientists from the State Board of Health walked more than two miles every two hours visiting the nets and releasing the birds enmeshed in them. Before they were released the birds were banded and a small quantity of blood drawn from a large neck vein for testing. This did not harm the birds and rare indeed was the banded bird that was recaptured in a net.

Mosquitoes captured in the traps

Rats have long been a threat to man's health as well as a destroyer of his food. They carry a number of serious diseases that can be transmitted to man.





A doctor of Veterinary Medicine here takes blood from a bird to determine if it is a carrier of disease. He is working in a swamp in south Florida and had been there several days as is attested to by the beard!

were periodically sent to the State Board of Health Laboratory to be tested for the presence of the encephalitis virus in their bodies.

Usually pictured in white coats amid a mass of beakers and test tubes it might be hard to realize that these scientists (including veterinarians) were wading in mud and water sometimes up to their armpits in order to secure the answers they needed to break the chain and eliminate danger of this disease. It was just hard, muddy work and they were exposing themselves to infection with the very illness they were trying to stamp out.

A cow treated with penicillin passes a portion of this antibiotic on to the person who drinks its milk. People with penicillin allergies might react to the drug they receive in the milk. For this reason veterinarians are cautious in their administration of antibiotics to dairy animals.

Conquered?

Here are some diseases that used to be a real threat to Floridians. A roll call will reveal that:

★ Typhus fever has not been seen in the state to any degree since 1948. Yet 500 cases were reported in 1945—and undoubtedly there were more which had not been diagnosed or reported to the State Board of Health. Typhus is carried by the fleas on rats. These fleas bite an infected person, live on rats for a while and then bite another person, thereby infecting him.

★ Bubonic plague which struck terror to the hearts of our grandparents was eliminated early in the century primarily through the requirement of placing rat guards on mooring ropes of ships coming from foreign lands. Rats are the animals that spread this disease.

★ Psittacosis, or parrot fever, is a disease of parrots, parakeets and other pet birds which may be transmitted to humans. In Florida this does not now present a problem because we have open houses with good ventilation—and we've always had a balmy climate. When birds having this disease are carried to other climates where it is necessary to keep them indoors in closed rooms, humans sometimes contract the disease.

★ Glanders, primarily a disease of horses, appears in public health reports as far back as records can be located. Back in the days when the horse was the most common means of transportation people acquired this disease through contact with their animals. However, veterinary medical science was given an unexpected assist when the automobile and the paved highway replaced the horse and glanders faded into the limbo of controlled diseases.

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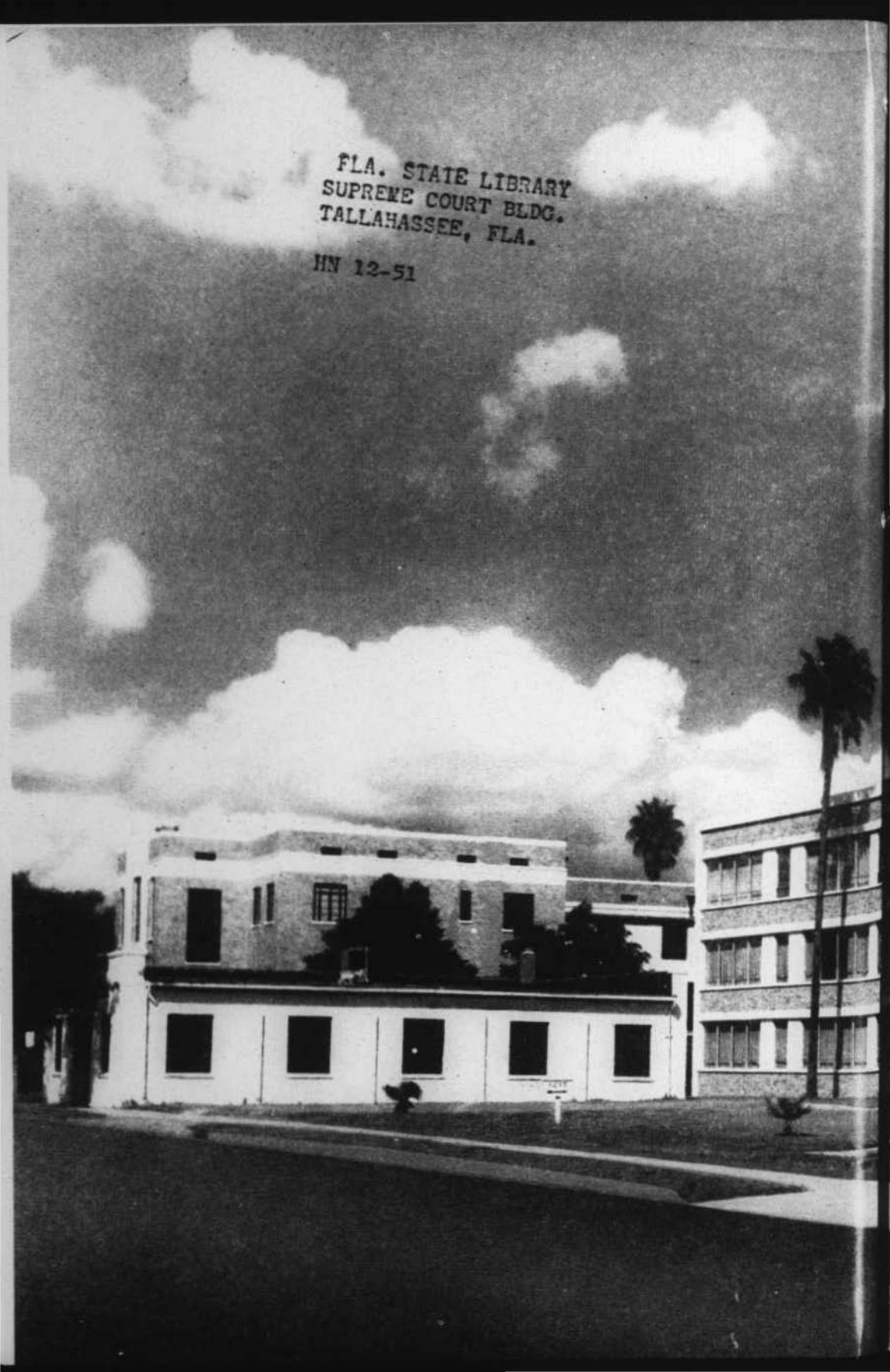
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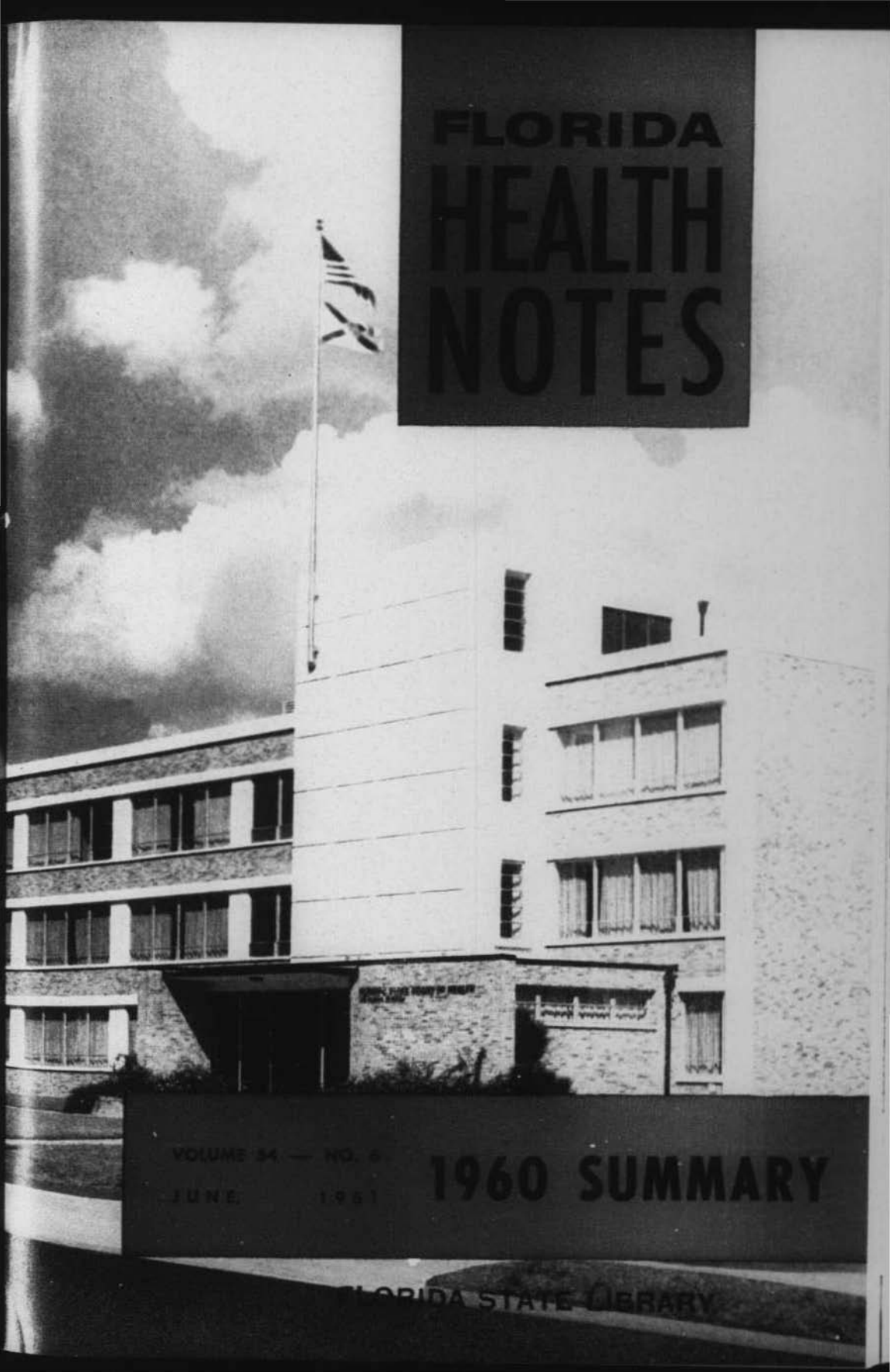
All counties in Florida have organized County Health Departments

FLORIDA HEALTH NOTES published by Florida State Board of Health since 1892

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FLORIDA
HEALTH
NOTES
VOLUME 54 — NO. 6
JUNE 1961
1960 SUMMARY
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Florida State Board of Health



Protector of the Public Health

"The question has frequently been asked during the past year 'What is the State Board of Health doing and what has it done?' . . . It has restored faith in the health of the state . . . it has gained the confidence of the general public . . . it has harmonized health matters with business interests and in conserving one has protected the other; it has prevented panics by promptly investigating gossipy rumors; it has disseminated knowledge as to the preservation of health . . . it has furnished county boards of health with information in regard to their work . . . in short, it has done all it could . . . to preserve the health of the people and to create an interest in health matters."

From the first Annual Report of the

FLORIDA STATE BOARD OF HEALTH

May 5, 1890

1960 SUMMARY

The 1960 Annual Report of the Florida State Board of Health has just come off the press. It is a document of some 256 closely printed pages. (You may examine it in your County Health Department or at your Public Library.)

Throughout the Report runs the theme: the number of people in Florida steadily increases—and wherever people multiply so do the problems. Some of the most common ones are related to services for mothers and children, clean water and food, disposal of wastes, control of disease. But others keep cropping up, also. What can be done about further controlling that biting pest, the salt marsh mosquito? Is infectious hepatitis becoming more of a threat to our people? What about fluoridating more water supplies and cutting down on dental decay? What about safeguarding the use of radioactive materials in medicine and industry? Will the Hospitalization of the Indigent Program continue to grow and take a larger part of the budget? Will alcoholism come to be regarded as a public health problem? What is to be done about fringe area sanitation and overflowing septic tanks? Should more mental health clinics be set up? . . .

We could fill an issue of *Florida Health Notes* with questions like those above, but instead we have put down a *few* things that happened last year in which the State Board of Health (and their co-workers, the County Health Departments) played a part. There were many more, equally important, that had to be left out because of space limitations. But if in these few pages we have given you the faintest concept of what the State Board of Health does from day to day to protect *you,* this issue will have served its purpose. For the staff of the State Board of Health and the County Health Departments are dedicated to helping solve problems that concern the public's health.

In the following pages you will find listed the eight basic services that the State Board of Health strives to give Florida's citizens, with some definite ways in which these services were carried out in 1960.

FLORIDA HEALTH NOTES

Published monthly except July and August on the 5th of the month by the Florida State Board of Health. Publication office Jacksonville, Fla., headquarters of the State Board of Health. Entered as second class matter, Oct. 27, 1921, at post office, Jacksonville, Fla., Act of Aug. 24, 1912. It is intended primarily for individuals and institutions with an interest in the state health program, public and private. Permssion is given to quote any story. Clipping of quotations or excerpts would be appreciated.



Vital Statistics
in Public Health

deal with

BIRTH	**DEATH**
POPULATION	**ILLNESS**
MARRIAGE	**DIVORCE**

Knowledge of these figures helps us to MEASURE THE MAJOR HEALTH PROBLEMS AND HEALTH PROGRESS IN A COMMUNITY. COMPARE THESE MEASUREMENTS WITH PREVIOUS YEARS IN THE SAME COMMUNITY, AND WITH OTHER COMMUNITIES.

VITAL STATISTICS

In 1960, there were 222,759 current certificates registered with the Bureau, an increase of 3.3 per cent over the preceding year.

There were:

115,610 births recorded . . .

47,719 deaths . . .

Marriages totalled 39,315

Divorces . . . 19,511

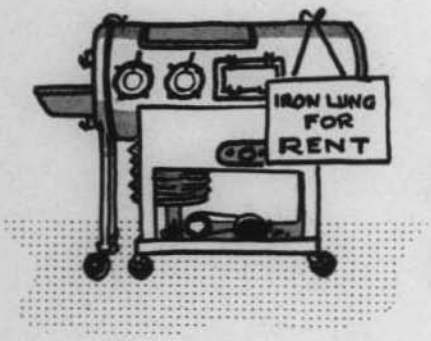
A total of 3241 delayed birth certificates were filed.

Requests for 114,324 certified copies of certificates were received and processed.

★ ★ ★

The 10 leading causes of death in Florida in 1960 were:

Diseases of the heart	16,995
Malignant neoplasms (cancer, all forms)	7,719
Cerebral vascular disease (strokes, etc.)	5,491
All accidents	2,903
Diseases of early infancy	2,059
Influenza and pneumonia	1,640
Diabetes mellitus	739
General arteriosclerosis (hardening of the arteries)	733
Suicide	667
Other diseases of circulatory system	652



Communicable Disease Control

IMMUNIZATIONS

★

DIAGNOSING

FINDING SOURCE OF DISEASE

ISOLATING

TEACHING HOME CARE OF THE SICK

TREATMENT — WHEN NECESSARY

SPECIAL STUDIES AND RESEARCH

★

Some Communicable Diseases that are Big Problems Today:

TUBERCULOSIS
POLIO
VENEREAL DISEASE
TETANUS
DIPHTHERIA
INFECTIOUS HEPATITIS

COMMUNICABLE DISEASE CONTROL

"Ever Watchful" might be the slogan of all those who work to control those diseases which spread from man to man or animal to man. Immunizations are still necessary for protection. In 1960, through the State Board of Health and the County Health Departments, the following immunizations were given:

Polio	510,901	Whooping cough	78,263
Tetanus	176,694	Smallpox	69,911
Diphtheria	126,416	Rabies — animal	33,810
Typhoid	91,033	Rabies — human	150

The year ended with 66 reported cases of polio. Of these, 47 were paralytic. The 5 deaths which occurred in Florida during the year were in unvaccinated adults. Oral polio vaccine was given to 425,000 Dade County residents.

A total of 73 diphtheria cases were reported, with 2 deaths. The highest attack rates occurred in the 0-4 age group. More than 90 per cent occurred in unvaccinated persons.

Reported cases of infectious hepatitis rose from 242 in 1958 to 342 in 1959 to 1108 in 1960. Eleven epidemic investigations were carried out. This disease occurs most frequently between the ages of 5 and 9. This may be explained by the fact that close personal contact in play is common among school age children and hand-washing after toilet use is rare. The attack rate for the white population is approximately twice as high as that for the nonwhite group.

Total syphilis cases reported during 1960 were 4119. Infectious cases —in the early stages—have greatly increased with 639 reported in 1960 as against 344 in 1959. Many early cases are not reported by private physicians while others seek medical care from quacks. Several epidemics of infectious syphilis occurred throughout the state in the past year: in the southeast, central and several northwest counties. Reported cases of

gonorrhea still come largely from VD clinics sponsored by County Health Departments since private physicians report very few cases. During 1960, 17 trained VD interviewer-investigators were assigned throughout the state. Emphasis is increasingly placed on education of (1) the infected person; (2) local physicians and County Health Department personnel on the latest methods in diagnosing and treating VD patients; (3) long term education programs in the schools. In 12 counties last year instruction was given to classroom teachers and physical education instructors. The teachers then can use this information in whatever way they think is best, in whatever subject they teach.

Tuberculosis is still with us. In 1960, however, 1772 cases were reported as against 1989 in 1959. Last year 299 of these were transfers from out-of-state. The decrease in deaths in young people is notable. In 1950 there were 229 deaths from tuberculosis before age 45, compared to 46 in 1960, while the population had increased 79 per cent. But the number of deaths is no longer an index of the prevalence of the disease, since many deaths have been prevented by modern drugs and treatment. Our Central Case Register has 10,135 cases (active and inactive) in its files. A total of 623,333 small x-rays were taken by the State Board of Health and County Health Departments. Of this number 7944 were of agricultural migrant workers. In 1960 County Health Departments reported they made 59,486 tuberculin tests, principally on children. These tests help to find older persons who may have tuberculosis who are in contact with children in the first and second grades.

Some 49 diseases transmitted from animals to man have been reported in the southern states. In Florida last year, there were 36 positive laboratory cases of rabies reported, all in animals. No human cases were reported. A number of people were known to be exposed to: raccoons - 22; cats - 6; bats - 4; dogs- 3; fox - 1. Creeping eruption remains a common skin disease of children, gardeners and utility workers. It is caused by hookworm in animals. Ringworm is frequently reported. Three cases of brucellosis (undulant fever) were reported in 1960. Leptospirosis, a common disease of cattle, swine, dogs and rodents, was reported in 864 cattle, 510 dogs, 3 swine and 14 people.

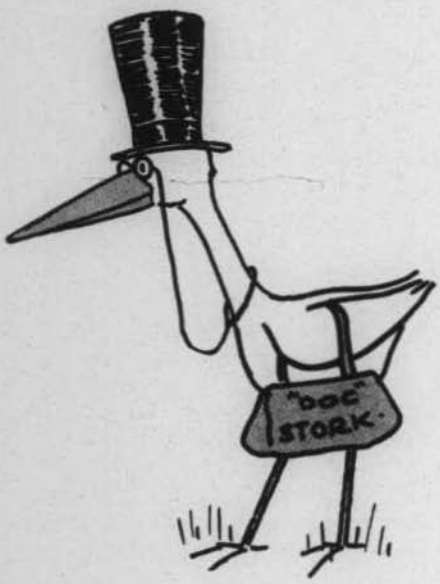
The hurricane "Donna" caused much worry and work among Florida's public health workers. For a description of our activities as they concern the above storm, see Florida Health Notes for April 1961.

PUBLIC HEALTH NURSING

At the end of 1960 there were 656 public health nurses in Florida. These women, who are all registered nurses, frequently have had advanced training as is evidenced by the fact that only 40 per cent of those in the County Health Departments have received less than one year of specialized graduate work. Public health nurses serve in clinics, visit homes, give prenatal and postnatal care, assist in the inspection of nursing homes, visit schools, follow-up patients released from tuberculosis and mental hospitals and teach, teach, teach—about more healthful ways of living. They also check up on midwives and cooperate with groups of Red Cross "Gray Ladies," many of whom are now serving in the first aid rooms of our public schools. The services of these ladies free the public health nurse for other important duties. Mother and baby care classes are organized and taught; those with chronic diseases are cared for and members of their families are also taught. Seven "combined" nursing services are now in operation where a public health nurse gives bedside care and does health teaching at the same time.

NUTRITION SERVICES

There are four regional nutritionists serving with the State Board of Health and they find that their problems are primarily in three areas: (1) the constantly increasing numbers of aged people migrating to the state; (2) nutritional health of school children and (3) dietary problems of persons who have chronic diseases such as heart diseases and diabetes; mentally retarded; expectant mothers; and crippled and underprivileged children. In regard to item (1) they work with operators of nursing homes and other institutions where aged people are cared for. Number (2) was assisted by 171 classes which 4350 school personnel attended. The nutritionists also held 43 group conferences in the schools and 115 individual ones. In item (3), 531 individual conferences and 20 with groups concerned with chronic diseases were held. There were also classes which more than 700 attended.



Maternal and Child Health

PROMOTE SOUND CHILD GROWTH
AND DEVELOPMENT

PRENATAL AND POSTNATAL

MATERNITY CLINICS
SUPERVISION OF MIDWIVES

INFANT

WELL BABY CLINICS

PRESCHOOL

WELL CHILD CLINICS

SCHOOL

PERIODIC INSPECTION AND SCREENING FOR DEFECTS
PHYSICAL EXAMINATION OF SELECTED CHILDREN
VISION AND HEARING CONSERVATION
FOLLOW-UP

MATERNAL AND CHILD HEALTH

There were 218 maternity clinics operating in 56 counties in 1960. These clinics are directed by a private physician or the County Health Officer who is always a physician. The number of expectant mothers attending these clinics accounted for 11.3 per cent of all births in Florida. Unfortunately only 33.5 per cent of the mothers attending the prenatal clinics returned for a post partum visit. This examination is important to the mother's health and especially important in the early diagnosis of cancer.

Physicians attended 99.2 per cent of white deliveries and 91.6 of nonwhite births. Deliveries were in hospitals in 98.8 per cent of white births and 79.7 of nonwhite. There were 53 maternal deaths as compared with 57 for the previous year.

The 228 licensed midwives delivered 6010 babies during 1960.

There were 115,610 births with 3432 infant deaths (29.7 per thousand live births). Prematurity is a major cause of these deaths. In a survey it was found that there are more than 500 incubators in 53 counties available to help care for premature infants. With the close of 1960 the Premature Demonstration Center in Miami completed 10 years of service to premature babies in that area. During this period the Center also provided training and experience for several hundred physicians and nurses in the care of these babies.

Of the 112,733 children born in Florida in 1959 it is estimated that three per cent or 3382 were mentally retarded. Of this number approximately 1707 died during the year, leaving about 1675, some of whom can be partially educated, others trained and a smaller number who must receive constant bodily care, thus adding to the waiting list for those who need care in Florida's institutions. In an endeavor to better understand the many problems concerned with the mentally retarded, 6 orientation programs were offered at Sunland Training Center at Gainesville and 14 seminars were presented in the counties to a total of 459 professional workers from 58 counties. A special project, the Developmental Evaluation Clinic, in Miami is now in its third year in investigating the early detection, diagnosis and management of mentally retarded children.

Immunizations are not routinely offered in the schools as in the past, nor are physical examinations. However, the public health nurse may refer a child to the County Health Department clinic if his family cannot afford the services of a private physician. Tests for vision and hearing defects, tuberculosis and intestinal parasites are frequently done. When a school seeks accreditation, one of the requirements of the State Department of Education is that a teacher must be designated to serve as a school health coordinator. Many of these coordinators have participated in the Teachers Project. This is a program, conducted jointly with a number of universities to assist teachers to learn more about community health resources available to them for their school health program. Over the past five years 257 teachers have each worked 13 days in their home counties, using the County Health Department as a base. In 1960, 76 teachers were enrolled from 22 counties.

A special project to develop health services for agricultural migrant workers is now in its fifth and last year of operation. This is a project designed to fit the health needs of a specific group such as family clinics held at night, nursing visits to camps, schools for landlords of rental units, etc.

Since more than 90 per cent of Florida's child population have no chronic diseases or health handicaps, continued emphasis has been given to assisting parents in understanding problems they will meet in rearing normally healthy children. Over 100 programs, reaching approximately 5000 parents, educators, social workers and health personnel were held in 1960.

SCHOLARSHIPS

The State Board of Health awards a number of scholarships upon the recommendation of appropriate groups such as committees of doctors and dentists, the Florida Council on Training and Research in Mental Health, and its own supervisory personnel who are concerned with graduate education for outstanding employees.

In 1960:

. . . 11 medical scholarships were awarded plus 29 continuing ones awarded in prior years.

. . . 9 dental scholarships plus 22 continued from previous years.

. . . 9 residents in psychiatry, 8 in clinical psychology, 6 in psychiatric nursing and 16 in psychiatric social work.

. . . The 18 employed public health personnel who received scholarships included 5 health officers, 1 public health dentist, 6 public health nurses, 2 sanitary engineers, 2 sanitarians, 1 psychiatric social worker and 1 clinical psychologist.

DENTAL HEALTH



The State Board of Health operates two mobile dental clinics, served by two full-time dentists who give care to children whose parents cannot afford the services of a private dentist. These clinics operate in counties where there are few or no dentists. In 1960 they did 4174 inspections, 2745 fillings, 1594 extractions plus other treatments. The dentists also made many talks before school and civic groups. The dental preceptorship program, providing a year of practice as a public health dentist for young men just completing their dental education, resulted in the placement of 14 in County Health Departments and in the Central Office of the State Board of Health. They report they did 68,811 inspections of school children's teeth, 33,282 fillings, 2534 extractions, etc., as well as giving 558 educational talks on dental health. Local dentists who volunteered their services made over 20,000 dental inspections in elementary schools. There are now 22 fixed dental clinics and two mobile clinics in the 67 County Health Departments. A referendum was won in Ocala by a better than two to one vote to retain fluorides in the community water supply.

★

NARCOTICS CONTROL

Though there was an increase in Florida's population there was a decrease in the number of arrests for narcotics violations. State Board of Health narcotics inspectors made 205 arrests during the year of which 123 were for narcotics violation. The drug, heroin, continues to require serious attention. With 2000 miles of coastline to guard constant vigilance is required to prevent entry of this product into Florida. There is an inspector staff of nine. Cocaine, absent from the picture for many years, has again turned up in the state. Paregoric, the non-prescription preparation and the opium obtained by boiling it down, and certain cough syrups containing narcotics have been the cause of 25 persons being confined for addiction treatment. Marihuana smoking remains a major problem. It grows rapidly in Florida and can spring up without the knowledge of the landowner. Vigorous efforts are being made to keep the plant under control and to educate the public to recognize and eliminate it. Arrests for violations other than narcotics totaled 82. These included 5 pharmacy violations, 6 violations of the Medical Practice Act, 46 barbiturate and amphetamine cases and 25 commitments. In 1960, the State Board of Health registered 9699 practitioners of the healing arts. Public education is an important part of the job to control the illegal use of narcotics. In 1960 there were 66 illustrated talks made to approximately 2500 persons which includes PTA meetings, school and university groups, police training classes, nurses, pharmaceutical and medical societies.



Mental Health Services

for Promotion of Mental Health
Prevention of Mental Illness

★

Assistance To
Discharged Patients and Their Families

★

CHILD GUIDANCE AND MENTAL HEALTH CLINICS
MENTAL HEALTH WORKERS

INTEGRATION OF MENTAL HEALTH SERVICES
INTO COUNTY HEALTH DEPARTMENT PROGRAM
INSERVICE TRAINING

★

EDUCATION
(lay and professional)

★

TRAINING AND RESEARCH

MENTAL HEALTH

In 1960 the number of persons who were seen by County Health Department personnel, because of some mental problem, was 8920 of which 3000 were former patients in mental institutions. More than 10 times as many males were admitted to mental health services as females.

The State Board of Health is now affiliated with 16 full-time outpatient mental health and child guidance clinics. We offer consultation, training and financial assistance to these clinics. One clinic has a full-time psychiatrist and four other clinics are trying to find one; 45,000 persons in Florida are seriously incapacitated with mental and emotional illness and over 200,000 need the services of a psychiatrist or mental health clinic. It is estimated one out of 10 school children need child guidance services, and that mental illness costs the state over 98 million dollars each year.

We also provide consultants and some financial assistance for community programs related to mental health in cooperation with the Florida Congress of Parents and Teachers, the Vocational Rehabilitation Service, local mental health associations, Florida Alcoholic Rehabilitation Program, the University of Florida and others.

State mental hospitals are discharging patients more rapidly and the need for follow-up services is increasing. Help must be given to the families of patients in these hospitals, and to prepare the family, employer and community for his return. This is done mainly by public health nurses and by a worker unique to Florida—the mental health worker. There are 30 such persons who are now on County Health Department staffs. Such a worker must be qualified in either public health nursing, education, social work or psychology. He works to find new ways to promote improved mental health in the community. This program is still in its infancy, but is showing great promise.

The Florida Council on Training and Research on Mental Health continued its activities, holding three meetings during the year. They sponsored research projects, workshops and scholarships to those in the mental health field.

TEXT MAY BE LOST DUE TO TIGHT BINDING.

★ ADMINIS

Few Floridians realize that there is a (governing) Board of Health, five men, who are responsible for making the policies under which the State Board of Health operates. The men, appointed for four-year terms by the Governor, who served in 1960 were:

John D. Milton, M.D., Miami
T. M. Cumbie, Ph.G., Quincy
F. P. Meyer, D.D.S., St. Petersburg
Sullivan G. Bedell, M.D., Jacksonville
W. S. Horn, D.O., Palmetto

The Secretary to the Board and the State Health Officer is Wilson T. Sowder, M.D. There are two Assistant State Health Officers, A. V. Hardy, M.D., and C. M. Sharp, M.D.

Five meetings were held by the Board last year. A few items of business are noted below, only to show the variety of the problems with which they were confronted:

February 9—Jacksonville

★ Adopted amendments to the Rules and Regulations governing administration of the Indigent Hospitalization Program.

★ Adopted regulations for the control of toxic pesticides.

★ Reviewed the report of the State Auditor.

★ Approved a group insurance plan for employees and authorized the State Health Officer to enter into an agreement with the insurance company on this matter.

March 26-27—Entomological Research Center, Vero Beach

★ Adopted revised regulations for the Cancer Control Program.

★ Confirmed a long standing policy to the effect that death records in the Bureau of Vital Statistics should be considered confidential.

TRATION ★

★ Approved certain persons for postgraduate training in public health during the academic year 1960-61.

June 19—Jacksonville

★ Discussed a financial crisis in connection with the Indigent Hospitalization Program and approved a plan to hold a meeting with the county commissioners on this subject.

★ Heard a report from the Chairman of the Air Pollution Control Commission and discussed air pollution control problems.

★ Approved the placement of responsibility for enforcement of the amended law on Food, Drugs, and Cosmetics in the Bureau of Narcotics.

August 27—Jacksonville

★ Approved a proposed budget submitted by Dr. Sowder for the Biennium 1961-63.

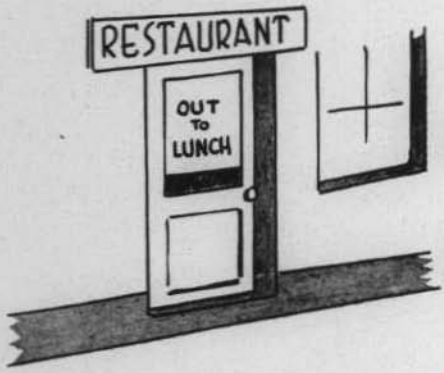
★ Reiterated a long standing policy not favoring the supplementation of salaries of employees and adopted a resolution to this effect.

November 19—Dade County Department of Public Health, Miami

★ Toured the Dade County Department of Public Health and the Regional Laboratory of the State Board of Health.

★ Discussed in some detail a recently passed federal bill to aid the states in the medical care of the aged. This bill is known as the Mills-Kerr Bill or Public Law 86-778.

★ Heard a report from Drs. Milton, Cato and Sowder concerning the Cuban refugee problem in Miami.



Environmental Health

Water Supplies

Water Disposal
- Sewage
- Industrial

Meat

Housing

Garbage Disposal

Subdivision and Fringe Area Problems

Rabies Control

Mosquito Control

Restaurants and Bars

Milk

Shellfish

Markets

Industrial Hazards

Rat Control

Motel and Trailer Courts

Swimming Pools

Public Health Nuisances

Bedding Act Administration

ENVIRONMENTAL HEALTH

In 1960 new water plants and additions totaled 31 per cent of the plans approved by the State Board of Health and the remaining 69 per cent were for water distribution systems and extensions to existing facilities. There were 729 public water supply projects approved which will cost an estimated $30,588,108.25. Plans were approved for 301 new swimming pools to be built at an estimated cost of $4,324,080. This makes a total of 1981 swimming pools and 53 natural bathing places to receive permits from the State Board of Health. Also, there were 34 bottled water plants, 35 airline catering and watering facilities, 10 airline servicing areas, 4 railroad commissaries, 21 railroad watering points and 62 vessel watering points operating under State Board of Health permits.

Municipal and industrial wastes continue to be of concern. Although there was a decrease in the number of projects submitted for approval during the year, there were 777 projects reviewed and 733 approved costing $44,219,685. The greatest need for sewage treatment facilities exists in the smaller communities of less than 2000 persons. In 1960, plans were approved for 88 industrial waste treatment plants in 21 counties. Seventy-seven of these projects were facilities to treat laundry waste waters. Surveys and monitoring of several streams to determine the effects of waste systems (both municipal and industrial), emptying into them were conducted during the year. There were 297 drainage wells permitted in 1960. Of these, 71 were for lake level control, 136 were to accept waste waters from air-conditioning systems, 73 for swimming pools and the remaining 17 for other purposes.

Seventy-five sanitary landfills were operated resulting in the burial of 3,521,654 cubic yards of garbage.

The State Board of Health and the County Health Departments offer consultation services to housing and community developments, subdivision developers and lot sales enterprises. Both the Federal Housing Administration and the Veterans Administration cooperate by requesting a favorable opinion for all homes desiring an individual sewage disposal (septic tanks) and water supply. In 1960 out of 10,481 proposed homesites as above, 976 were approved, 91 were considered unsatisfactory and for 9414 lots in 22 subdivisions sanitary sewerage facilities were recommended.

There were 21 recreational and educational camps operating under current permits at the end of the year. Upon recommendation of the County Health Departments 167 migrant labor camps were licensed during the period July 1 - December 31, 1960.

Mosquitoes are still an object of our concern. A total of 53 counties appropriated $3,311,471 for mosquito control which was matched by $1,650,000 appropriated by the state, making a grand total of $4,961,-471 for control of these arthropods. More than one million mosquitoes were identified from trap collections. Utilizing 1,368,571 gallons of insecticide, 231,892 miles of Florida's mosquito breeding areas were fogged. Misting and dusting covered another 11,215 miles and required 192,427 pounds of materials. Airplane application with Paris green pellets was done at Sanibel Island and Miami. Ninety-three cisterns, cesspools or wells were filled while there were 2037 holes drilled and blasted to achieve vertical drainage of 1860 acres of land. Dog flies were controlled by spraying grass deposits with a 5 per cent DDT water emulsion at periodic intervals. A total of 3139 miles of shoreline was sprayed using 12,691 gallons of 5 per cent DDT concentrate, at a cost of $3.96 per mile. The number of licensed pest control operators increased to 261 in 1960; they employed 2854 persons. As a result of further need to protect the general public and personal health in Florida, the State Board of Health implemented the adoption of new "Regulations Governing Commercial Spraying of Lawns and Ornamental Shrubbery in Residential Areas with Highly Toxic Pesticides." The Entomological Research Center at Vero Beach received seven grants which helped finance their investigations. Special rearing pools for the salt-marsh mosquito, *Aedes taeniorhynchus,* were completed during the year and used at once. Several million mosquitoes were produced in 1960 for various experiments. The mosquito control organizations with their vehicles, tractors, bulldozers, draglines, airplanes and personnel went into around-the-clock action when Hurricane Donna struck Florida on September 10, 1960. They assisted other state forces in the clearance of debris, reopening blocked roads, re-establishing sanitation controls, restoring water supplies and carrying out rodent and insect control during the emergency.

Local sanitarians made 149,799 visits to 24,749 food establishments under their jurisdiction. Fifteen County Health Departments taught standard six-hour food handling courses and certified 2723 food workers.

An extensive educational campaign was launched and is continuing in the detection and prevention of insecticides in milk. This has been a cooperative effort on the part of the University of Florida, the State Board of Health, the County Health Departments and the dairy industry. Further efforts have also been made to eliminate antibiotics in milk. Routine sampling and testing of milk goes on in all the State Board of Health laboratories. Also, a program has been set up to test for the presence of radioactive elements in this valuable food.

During 1960, the oyster harvesting and processing industry had a good market. The Apalachicola area produced 160,791 gallons of shucked oysters and 72,593 bags of shellstock oysters having a wholesale value of over $900,000, approximately 95 per cent of the entire state production. The new Marine Laboratory in Apalachicola makes bacteriological examinations locally, resulting in quick action on polluted areas. Of the 85 oyster houses, 38 are located in this area. Sixty-two of the 85 oyster plants received permission for interstate shipment of their product. Approximately 15 million pounds of green crabs were caught, producing some 900,000 pounds of marketed processed crabmeat. Crabmeat processing plants in operation increased to 37 in 1960. The U.S. Public Health Service gave the entire shellfish industry in Florida a rating of 93 per cent as against 85 per cent in 1959.

Stamps for bedding materials produced revenue totalling $195,140 in 1960. Florida is uniformly consistent in regard to efficiency and effectiveness with any state having a comparable Bedding Law. The five regional offices of the State Board of Health made 4876 accredited inspections of establishments selling bedding materials, finding some 19,474 items in some condition of non-compliance with the law. Of these, 2755 were considered serious enough for "off sale" action pending corrections or return to manufacturer.

New permits were issued to 466 trailer parks representing an increase of 218 parks for the year. There were 2528 trailer parks providing more than 80,000 trailer spaces operating under current State Board of Health permits at the end of 1960.



Chronic Disease Control

IS CONCERNED WITH PREVENTION, EARLY DETECTION, DIAGNOSIS AND REFERRAL FOR TREATMENT OF CHRONIC DISEASES WHICH ARE PUBLIC HEALTH PROBLEMS

SUCH AS

HEART DISEASE
CANCER
DIABETES

IS ALSO CONCERNED WITH:

ADULT HEALTH AND GERIATRICS
HOSPITALIZATION FOR THE INDIGENT
LICENSURE OF HOSPITALS AND NURSING HOMES

DISEASES ARE STUDIED AND ACTION TAKEN:

THROUGH STUDY OF MORTALITY AND MORBIDITY RATES

SURVEYS

EDUCATION
(Professional and Lay)

CLINICS
RESEARCH

COOPERATION OF VARIOUS HEALTH ORGANIZATIONS INTERESTED IN SPECIFIC DISEASES

COMMUNITY KNOWLEDGE OF RESOURCES AND NEEDS

CHRONIC DISEASE CONTROL

Preliminary figures indicate that in 1960, as well as in 1959, more than 50 per cent of all deaths in Florida were caused by diseases of the *cardiovascular* (heart and blood vessels) system. County Health Departments are increasing public health nursing services to persons suffering from these diseases. At the end of the year 348 persons were listed in the State Board of Health rheumatic fever registry. Rheumatic fever can lead to certain types of heart conditions. Twenty cardiac clinics are available in 13 counties of the state. Emphasis is being laid on professional and lay education in cooperation with voluntary health agencies. Two heart disease seminars were held for physicians in 1960. The one in Miami drew 300 physicians.

Cancer remained the second leading cause of death in Florida taking a toll of 7719 Florida residents in 1960. The mortality rate increased from 132.1 per 100,000 in 1950 to 155.9 per 100,000 of population in 1960. The 22 tumor clinics are staffed by private physicians of the community who serve without pay. A total of 23,771 visits were made by patients to these tumor clinics in 1959. The Community Cancer Demonstration Project is now studying the frequency with which cancer of the cervix of the uterus is found in women who are recipients of Aid to Dependent Children. Of 1039 ADC recipients screened in Dade County, representing 43 per cent of the ADC recipients in that community, 85 were referred to tumor clinics because of atypical, suspicious or positive cytology findings, as the result of the Papanicolaou smear, a very effective technique for screening for cervical cancer. To date, 34 cases of cancer of the cervix, proven by biopsy, previously unknown have been discovered in this group. Thirty-one of these were very early cases and three were reported as invasive.

Diabetes was again among the 10 leading causes of death in Florida. It is estimated that there are approximately 100,000 diabetics in Florida, of whom half are unaware of their condition. A total of 32,145 vials of insulin was supplied to 2826 needy individuals at a cost of $37,400. The funds for insulin were sufficient for only one-half the actual need. The program of searching for unknown diabetics among the relatives of known diabetics is continuing to bring to light many early cases which may be

successfully controlled. Information to the diabetic has been published in the form of TIMELY TOPICS, a monthly information sheet. Diabetic seminars for physicians are held annually.

During 1960, the State Board of Health continued the administration of available county, state and federal funds for the Hospital Service for the Indigent (HSI) Program. Effective October 1, 1959, the service to Public Assistance Recipients through the State Department of Public Welfare, using funds from the U.S. Department of Health, Education and Welfare, became a second avenue of financial aid for those unable to pay for hospitalization. In 1960, this latter program (PAR) expended $2,872,290 of combined federal and state funds. The first program mentioned above (HSI) paid out in local and state funds $2,926,942. These two programs accounted for 28,237 admissions to Florida hospitals.

In the hospital and nursing home licensure program 147 hospitals were licensed in 1960. Of this number 92 were surveyed. Plans were reviewed for construction and/or renovation of 75. Estimated number of beds subject to licensure in Florida are 17,750, plus 2432 bassinets. This program is assisted by an Advisory Hospital Council, a group of six persons appointed by the Governor.

In 1960, 321 nursing homes were granted licenses. These included homes for the aged, homes for special services and homes offering nursing care, the majority being in the latter category. Seven homes closed voluntarily. A total of 9296 beds were available in these homes, which are inspected and assisted by County Health Departments and State Board of Health personnel in bringing up their standards of care and improving their physical facilities.

Florida's Commission on Air Pollution Control held 6 meetings and 2 hearings during the year. There were 32 investigations of complaints in 14 counties, of which 7 had little or no basis. The Polk-Hillsborough County Air Pollution Control District secured information on 10 phosphate companies. A statewide air pollution survey requested by Governor Collins included interviews with city officials of 40 cities over 10,000 population and 11 smaller cities, as well as visits to 84 industrial establishments—all for the purpose of "clearing the air."

— RESEARCH —

In public health new problems arise, and new ways of attacking both old and new public health problems must constantly be studied. These investigations may be called research, studies, demonstrations or surveys. Whatever their name, they are designed to find answers that will better serve the health of Florida's citizens. There follows a short description of just a few of Florida's efforts in this direction.

★ The Entomological Research Center in Vero Beach has numerous research projects going on, all of them primarily concerned with better ways to eliminate mosquitoes and other insects.

★ Many studies have been made and are still going on following the use of live polio vaccine in Miami last Fall. Particular study has been given to why people accepted or rejected the vaccine.

★ A demonstration project is being planned by Sarasota in relation to the problem of alcoholism. How can a County Health Department set up a program that will help the alcoholics in a community and their families to combat this condition which affects so many of our people?

★ Studies are going on in Pinellas County to determine what constitutes a good public health program for the aged.

★ Hillsborough County is studying the most effective means by which local organizations can work together to help those persons returning home from mental hospitals.

★ Consideration is being given to a comprehensive study of nursing care needs of patients in nursing homes.

★ Studies in public health administration, supported by funds from the Kellogg Foundation, are continuing. This has required a re-evaluation of public health programs on state and county levels.



Laboratory Services

(County Health Department, regional and central laboratories)

EXAMINATION OF

1. BLOOD
2. STOOLS
3. SPUTUM
4. FOODS
5. MILK
6. WATER
7. SHELLFISH
8. ANIMALS
9. DRUGS AND NARCOTICS
10. BODY ORGANS AND/OR CONTENTS
11. OTHER BODY FLUIDS

TO DETECT (Among other things)

1. Typhoid, Typhus, Undulant Fever, Tularemia, Syphilis
2. Hookworm, Stomach Worms, Pinworms, Tapeworms, Polio, Dysenteries
3. Tuberculosis and Fungus Infections

 For the dentists: lactobacillus counts
4. Food Poisoning
5. Bacteria and Adulteration
6. Pollution
7. Contamination
8. Rabies and other Virus Diseases
9. Harmful Substances and Habit-Forming Drugs
10. Chemical Substances (including industrial hazards)
11. Nose and Throat Swabs for Diphtheria

OUR PUBLIC HEALTH LABORATORIES

Florida's public health laboratories consist of a Central Laboratory in Jacksonville and six regional laboratories located in Pensacola, Tallahassee, Orlando, Tampa, Miami and Lantana. Their functions are many and varied and they serve the people of Florida through the private physician, the dentist, the hospital and other medically-related individuals and groups as well as the County Health Departments. In the following abbreviated table, you will get just a faint idea of the many tests performed in 1960.

Type of Examination	*Number Performed*
Serology (blood testing for syphilis, blood typing [Rh factor], etc.)	1,335,371
Diagnostic bacteriology (diphtheria, tuberculosis, typhoid, gonorrhea, blood cultures, etc.)	512,170
Sanitary bacteriology (dairy products, water, pollution surveys, food poisoning, etc.)	400,958
Dental caries bacteriology	5,370
Parasitology (intestinal parasites, malaria)	117,481
Mycology (fungus and fungus infections)	15,858
Chemistry (blood, spinal fluid, urine, water, etc.	49,490
Veterinary public health	6,680
Viral and rickettsial diagnostic services (rabies, etc.)	43,609
Special projects (including research)	93,192
Total	2,581,529



Health Education

Helps people understand and solve their own health problems

Is done by all members of Health Department who give basic information about

COMMON DISEASES

STATE OF OUR HEALTH

PREVENTION OF DISEASE

by means of

DIRECT TEACHING
(talks, visits to homes, etc.)

FILMS
RADIO
TV
PAMPHLETS
EXHIBITS
POSTERS
INSTITUTES
NEWSPAPERS
SURVEYS
DEMONSTRATIONS

HEALTH EDUCATION

The objective of all health education is to teach people not only about health matters but also how they may take more responsibility for their own well-being and that of their community. One way this is done is through various media. To this end, in the State Board of Health in 1960, 41 displays and exhibits were constructed; 318 signs, charts, maps, etc., were made and 114 illustrations completed. Over 6000 films, filmstrips, slide sets, etc., were shown 11,200 times to over half a million people; several films were shown to audiences estimated at three-quarters of a million. Approximately 250,000 pamphlets were distributed. The most popular were those on mental health, nutrition, safety, child care and adolescent problems. This publication, FLORIDA HEALTH NOTES, is distributed to around 14,000 readers each month. The majority of readers are lay persons. A total of 100 press releases—statewide, local, regional—were prepared and distributed. The medical library continued to serve an increasing number of professional persons. Statistically, 2678 books were loaned; 10,451 journals were circulated; 2838 reference questions answered and 41 bibliographies prepared. Many talks were made to lay and professional groups. University classes were taught. Cooperation with voluntary health agencies continued. Public health personnel—doctors, nurses, sanitarians and the like—were assisted in their task of teaching about health. Every opportunity was seized to help more people learn more about good health practices and the control of disease and disease conditions.

What did it take to carry out public health services in Florida last year? Funds received or appropriated for the fiscal year ended June 30, 1960 were from the following sources:

State Appropriations and Funds	$8,744,041.13	49%
From Local Agencies for County Health Departments	5,267,681.95	30%
From Federal Grants-In-Aid	1,387,438.71	8%
From Research Grants	367,793.43	2%
From Hospital Service for Indigents:		
Local Sources*	254,456.84	1%
State Welfare Board	1,692,727.48	10%
TOTAL	$17,714,139.54	100%

*These funds deposited with and disbursed through the State Treasury. Does not include $2,966,460 disbursed locally.

ACCIDENT PREVENTION

The rate of reported poisoning cases treated at the 20 Poison Control Centers throughout Florida showed an approximate 50 per cent increase over 1959. Kerosene and aspirin remained in the lead of the list of poisonous substances ingested. A study of causes of accidental injury to children in vehicles conducted jointly by the State Board of Health and the Florida Pediatric Society, with cooperation from a number of hospitals, was completed during the year. The data collected showed that in 50 per cent of the cases reported, children were injured by falls within a vehicle which was moving but was not necessarily involved in a collision.

A limited survey of accidents to residents of nursing homes was completed. Approximately half the accidents resulted in temporary disability and 10 per cent in permanent disability. There were twice as many accidents during the months of October through March than during April through September. Two-thirds of the accidents occurred between 12 midnight and noon. Injuries were considered to be fatal in one out of 30 falls.

In 1960 the State Health Officer directed that an Interbureau Committee on Accident Prevention should be organized. This committee held seven meetings during the year and was able to initiate several important accident prevention activities, in the State Board of Health and County Health Departments for the benefit of our own employees.

★

RADIOLOGICAL AND OCCUPATIONAL HEALTH

The use of radioactive materials is growing in importance as evidenced by the 192 Atomic Energy Commission licenses currently held in the state and the 59 shipments of radium to Florida users during the past year. Diagnostic x-rays currently constitute the largest single source of man-made radiation to which our population is exposed. A total of 699 x-ray facilities used by doctors and dentists were examined in 1960 and each operator was given an individual report and recommendations.

Eleven shoe fitting fluoroscopes were found in operation in and around Miami. Letters were sent to each owner explaining that since less hazardous methods of shoe fitting are available, it was recommended that the use of the machine be discontinued.

Personnel operating equipment or exposed to radiation were monitored by means of badges issued by the State Board of Health, which are checked at regular intervals.

Of the 653 occupational disease reports received and investigated during 1960, 434 reported dermatitis, or skin infections and irritations. Parathion poisoning was reported by 100 persons. In 1960, personnel from the State Board of Health made 267 visits to 68 establishments employing about 18,000 persons. A survey of 10 phosphate plants in the Polk-Hillsborough area was begun. Such diverse places were visited as lead smelters, ferrous foundries, neon sign manufacturers, plastic boat manufacturers, monument plants and an airplane rebuilding shop.

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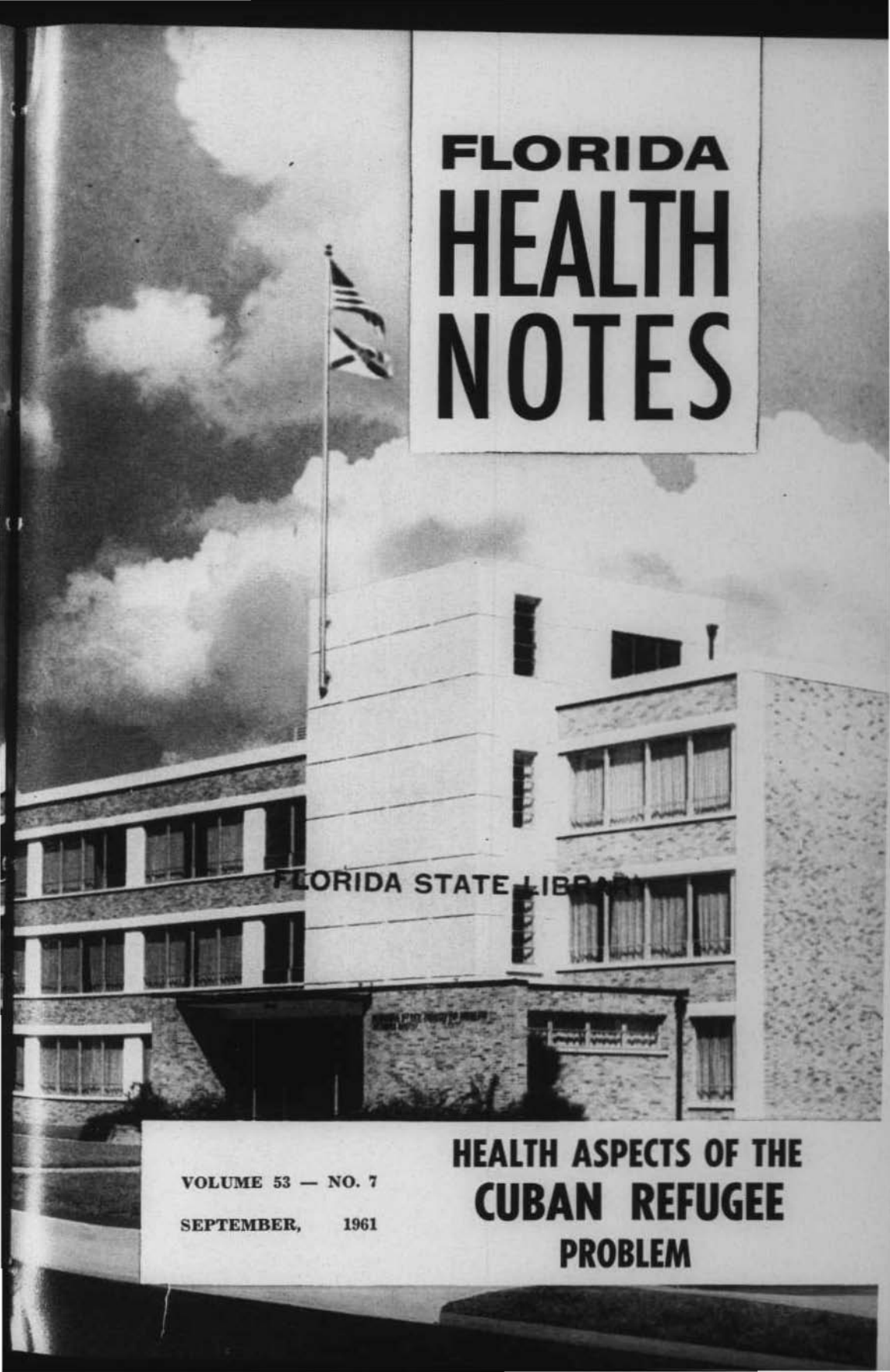
All counties in Florida have organized County Health Departments

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VOLUME 53 — NO. 7

SEPTEMBER, 1961

HEALTH ASPECTS OF THE CUBAN REFUGEE PROBLEM



HEALTH ASPECTS OF THE CUBAN REFUGEE PROBLEM

In June of this year, there appeared in a Miami newspaper, in an article announcing the moving of the Cuban Refugee Center to a larger location, the following statements:

"Officials see no letup in the high registration. Most refugees are recent arrivals from Cuba who fled by commercial airliner or in small boats. About 650 families register with the Center weekly . . . and 113 families apply for welfare aid . . .

"By June 16, registration totaled 17,170 families, including 42,925 individuals. On the federal welfare rolls are 6,254 families representing about 11,700 persons . . .

"Of the number of new registrants last week, . . . 74 per cent had come to the United States this year. And of this group 46 per cent had arrived here from Cuba this month. The remaining 26 per cent came here in 1959 and 1960 and 'have run out

FLORIDA HEALTH NOTES

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Photos used on inside front cover courtesy of Miami Herald

of gas.' They had some money or some source of income which has been exhausted. There is no question . . . of the genuineness of the need or of the high degree of appreciation."

What happens to a community, health-wise, when over 40,000 people arrive in distress, to live in a new community? One which has different standards of living, foodstuffs, medical care? How can the local health department and hospitals cope with the health problems involved? What is the fate of the numerous professional persons who are restricted from practicing their professions by our licensure regulations?

The purpose of this issue of HEALTH NOTES is to try to give our readers an idea of some of the problems presented and how they are being handled in an endeavor to serve well both the refugees and citizens of Florida.

The Dade County Department of Public Health (hereinafter called the Health Department) has always been sensitive to the needs of its many Latin visitors and residents. Long before any emergency was declared by the federal government, the Department was quietly absorbing many of the refugees into its everyday activities: the maternity and well child clinics, as well as TB, immunization and VD clinics; visits by public health nurses to homes and sanitarians to business establishments, etc. The language barrier present so much of the time naturally slowed up clinics and made visits most difficult and time consuming. One sanitarian solved the problem by taking his non-English speaking contacts to the nearest telephone and having a city official, born in Spain, help him get his message across. Six Cuban physicians were employed to do physical examinations on school children in 1959 and 1960. That the load was taxing can readily be seen, not only on the above Health Department personnel, but also on administrators and clerical workers, and the numerous other public health workers. There was also extra work for the branch laboratory of the State Board of Health situated in the Health Department building in Miami.

When it became evident that a crisis was approaching with the flood of refugees mounting each day, the Health Department joined with local, state and federal agencies to plan how to better cope with the situation — and serve the best interest of the Cubans and the community.

The Dade County Health Department has long had a

"Spanish" Well Baby Clinic in operation. Many of the patrons were Puerto Rican, others Cuban and a few from other South and Central American countries. A Spanish-speaking public health nurse worked in the clinic, assisted by English-speaking public health nurses and an interpreter (an American) who has worked in the clinic for many years in order to maintain her fluency in the Spanish language. The persons who patronized this clinic were usually in a low socio-economic group in this country, just as they had been in their homeland. They had probably never known any private medical care — only health department clinics and hospital out-patient medical care.

But the Cubans who have so recently fled their homeland are not usually in the above group. Many are professional people: doctors, lawyers, artists, bankers. They are in upper and middle class social groups, accustomed to the best private medical care obtainable in their native country. For example, problems are posed with the emotional impact of attending public clinics, and the fact that they may see a different doctor each time they attend. The State Board of Health and County Health Department presently stock a number of simple pamphlets written for clinic patients, but these cannot be offered to the majority of Cuban refugees. The reason is that they are written primarily for persons of limited educa-



The mother's full skirt can be seen on the right as this young Cuban is weighed at a well-child conference at the Health Department.



A volunteer interpreter (left) talks to a Cuban mother while the public health nurse in the background listens.

tional background and are not of interest to persons with a high school diploma or university degree.

In Cuba apparently one could buy many more items at a drugstore without a prescription than can be obtained in this country. It is also frustrating when they cannot get a prescription written in Cuba filled at an American drugstore. They may have been taking the medicine for years in Cuba, but the prescription to be filled here must be written by a Florida-licensed physician. Apparently the average middle class Cuban sometimes helped his physician to diagnose and treat his own ailments, a practice somewhat frowned upon in this countryy.

MEDICAL CLINIC AT THE CUBAN REFUGEE CENTER

All new refugees are requested to register at the Cuban Refugee Center, where the Clinic is located, and receive routinely chest X-rays (adults) and the

necessary immunizations, as well as assistance with matters concerned with employment, housing, financial assistance, etc. Incidentally, in the beginning many refugees were afraid to go to the Cuban Refugee Center to register. They feared they might be sent back to Cuba.

Planning for the Medical Clinic in the Center began in December 1960. The State Board of Health, the Dade County Department of Public Health and the U. S. Public Health Service cooperated and their plans were approved and authorized by the President's representative.

The major purpose of the Clinic was to provide selected preventive medical services and to refer patients who needed other medical services to appropriate community agencies.

The Clinic opened offically on January 5, 1961 after federal funds became available. Presently there is a full-time director (a Cuban woman physician who

The well-child clinic interpreter (left) registers a sleepy baby while the public health nurse sits at her side to advise.





The director of the medical clinic at the Cuban Refugee Center examines a protesting baby.

had once been an intern in the United States), six part-time Cuban physicians, a Cuban nurse, an American X-ray technician and two Cuban clerks. An additional 10 Cuban physicians are employed by the County Health Department in other capacities. Six half-time Cuban dentists are also employed and patients are referred to their offices at the Catholic Latin Center and Health Department. Liaison with the County Health Department is maintained by a Public Health Service representative who is assigned to the staff of the Health Department.

On June 12, the director reported that since January 5, 20,078 patients had received 29,309 services. Immunizations totaled 13,152; X-rays 11,807. Almost 500 patients had been referred to the various hospitals out of 2,456 who had received a cursory medical examination. A number of these were refugees who had fled Cuba in small boats. Approximately 350 had been referred for dental care.

Maternity patients were referred to the Catholic Latin Center from January to March of 1961, but due to the large number of referrals, they are now channeled to the North County Maternity Clinic (near

an area where many of them live) which is operated by the Health Department, unless the patient requests other arrangements. Here they receive prenatal care during the first months of pregnancy until they select a hospital for delivery. Then the hospital out-patient department assumes this responsibility. After delivery, the patients return to the North County Clinic for post-partum examinations.

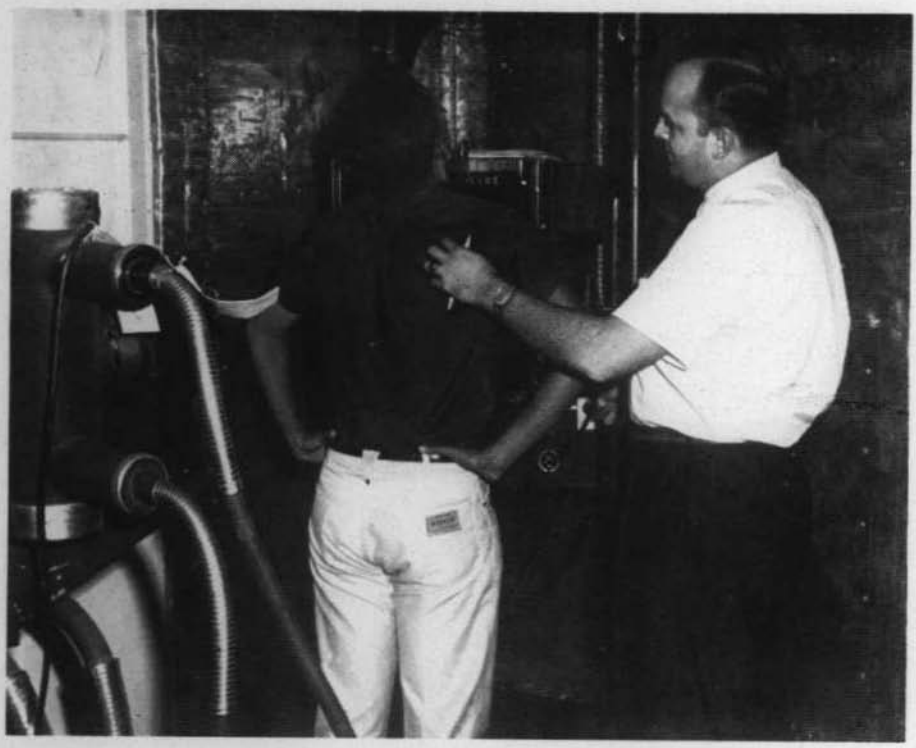
The following are a few figures concerning these maternity cases which may be of interest:

Number of patients visited in their homes by public health nurses (following registration at the Clinic)	99
Number who had made arrangements with one of five hospitals	55
Undecided as to where they would be delivered	19
Already delivered	16
Other patients visited but not found, probably having moved	42

(The use of the maiden name after marriage is practiced by

A Cuban dentist who works part-time (along with five others) here is aided by a refugee dental assistant as they do emergency treatment on one of their people.





An X-ray is a part of the registration process at the Cuban Refugee Center.

Cubans and adds to the confusion in locating patients. The language barrier is often present, also.)

WELL-BABY CLINIC

To the Downtown Center of the Health Department Spanish speaking parents now bring their babies. The majority of persons attending this Clinic are Cuban.

The following figures on attendance are revelatory:

1961 Month	Total Attendance	Approximate Percentage Spanish-Speaking
January	284	72%
February	234	63%
March	255	63%
April	223	54%
May	365	61%
June*	231	58%

*(3 weekly sessions only)

If the present trend continues, one can see that approximately

3250 clinic visits will be made by children during this year and that approximately 62 percent will have Spanish-speaking parents. Compare this with 1959 when 2807 visits were made with approximately 23 per cent being Latins.

A human interest note: Cubans insist that their children be vaccinated on the calf of the leg, rather than the arm — for this is the custom "at home."

Previous to the influx of Cubans, the Health Department had had only a small white well child clinic. The children attending seem to be well cared for. Apparently even if the parents are deprived of anything, they have endeavored not to let their children suffer. A few cases of intestinal parasites have been found but they average about the same as for American children in this area. No card or identification is necessary for the parents to request and receive care at this clinic. A Cuban physician staffs the Clinic, assisted by other Health Department personnel.

The sign at the maternity clinic is of such simplicity that most Americans could translate it into: "Please take a number and be seated. Thanks."





A public health nurse at a maternity clinic weighs a patient.

THE VISITING NURSE ASSOCIATION

To illustrate some of the health problems concerned with refugees, here follows a report, written June 23, 1961, by the Visiting Nurse Association of Dade County. This United Fund organization is affiliated with the Health Department.

"Services to Cuban Refugees
March 30 - May 31, 1961

On March 30, 1961 the Visiting Nurse Association of Dade County received its first referrals for visiting nurse service from the Medical Clinic of the Cuban Refugee Center. For the period covered by this report service was given as follows:

Total admissions	171
Total visits	374
Productive visits	198
Non-productive visits	176

The total number of productive and non-productive visits was almost equal. Many refugees stay with friends or relatives until they are able to make more suitable living arrangements. Then they move without notifying the Cuban Refugee Center. The nurses have been successful in finding some of them at the new addresses. Because of the needs we are finding and the services we are able to give, this has offset the time spent in non-productive visits.

The patients and families have been most grateful for the visits, and especially for the interest shown in their welfare.

Because of the language barrier, the Visiting Nurse Association prepared a pamphlet in Spanish, which explains visiting nurse service and how to contact the agency. As a result, we have had a number of telephone calls from the families themselves.



A public health nurse here queries a Latin mother before the Cuban physician makes his examination.

Of the 171 patients admitted to service during the period covered by this report, 140 were adults and 31 were children. However, the majority of the families have children and a family health service was given at the time of each home visit.

The nurses have visited many adults who have chronic illness, such as diabetes, heart disease, cerebrovascular accident and cancer. They have also visited children who have chronic conditions; for example, one child has severe facial scarring as a result of burns, another child has an orthopedic disability, and there is one child who appears to be mentally retarded. There have been acute conditions needing immediate attention, such as toothaches. Available community resources have been used for these patients and follow-up visits made whenever necessary.

One day a young woman

The following statements are taken from the:

"INTERIM REPORT to the PRESIDENT of

" . . . This is the first instance in many years in which the United States has been the country of *first* asylum for large numbers of refugees. The Hungarians, of course, fled first to neighboring countries . . . There they were carefully interviewed, enabling us to make arrangements for their arrival here, their care and their resettlement . . . Many of these refugees are unquestionably among the finest citizens of Cuba, including professional men and leaders in many other fields. For example, some 300 Cuban doctors have entered the Miami area alone. Recently, the refugees have spilled over in substantial — but as yet undetermined — numbers to other Florida cities and beyond Florida to such cities as New York, New Orleans, Los Angeles and Atlanta . . . Unquestionably, the most acute crisis exists in Miami . . . All who have arrived and have wanted to stay have been granted asylum . . . The resources, both of many of the refugees and of those who have so far taken them in, are now either non-existent or rapidly dwindling, and the capacity of these Miami hosts to care for refugee cases is already overtaxed. So, as more and more arrive, the situation in Miami becomes increasingly acute. Job opportunities for Cubans in the Miami area are at best limited. Also, it is patently not fair to the citizens of Miami seeking employment for this large number of Cubans to be compelled to look for jobs in that area alone. One firm figure, large enough to be of statistical significance, is that the Catholic Center reports that some 2,500 Cuban adults have registered with it for employment for whom no jobs have been obtainable. Many of these persons are heads of families. About 3,500 Cuban refugee children have been taken in as students in the Dade County public schools . . . A preliminary

the UNITED STATES of the CUBAN REFUGEE PROBLEM"

. . . December 19, 1960

sampling indicates that perhaps 200 of these pupils are living under conditions such that they do not have either 35 cents to buy a school lunch or the food at home to pack a lunch. Lunches for them have been furnished free by the Dade County school system. The school officials believe that in these cases there is probably also a lack of proper nourishment at home . . . An additional 3,000 pupils have been taken into the parochial schools . . . An outstanding program has been set up . . . through the "Centro Hispano Catolico." . . . The Cuban Refugee Emergency Center: This is being conducted on a temporary, austere and flexible basis to serve immediate needs, but one cannot escape the feeling that something like this may be required for some time to come . . . The Center's work has been fully coordinated with that of the Centro Hispano Catolico, above mentioned, and with the program of the International Rescue Committee (I. R. C.) The United HIAS (Hebrew Immigrant Aid Society) has already started work in the Center . . . The National Catholic Welfare Conference is going to provide at the Cuban Refugee Emergency Center additional warm clothing as necessary for all refugees being resettled. The American National Red Cross is preparing to supply all refugees coming to the Center with a kit of toilet articles . . . The Church World Service and . . . Protestant churches in the Miami area and the national Protestant welfare and resettlement agencies are coordinating their efforts."

The above gives a graphic picture of some of the background problems which would have their effect on health matters. Copies of this Report may be obtained from the U. S. Government Printing Office, Washington, D. C.

telephoned the Visiting Nurse Association requesting assistance in obtaining ambulance service for her aunt who had fallen the previous night. She stated that her aunt needed medical attention and x-rays as soon as possible, but how was she to be transported to the hospital? The family could not pay for ambulance service and did not know where to turn. The Cuban Refugee Center had given them a referral to a local hospital but could not arrange for transportation.

The visiting nurse arranged to meet the niece in the home soon after the call was received, as the niece had to act as interpreter.

When the visiting nurse made the home visit she found that the patient did need ambulance service. The patient's husband is a physician, but is handicapped because he cannot speak English. He was most anxious about his wife and the possibility of a fracture. Finally, after several telephone calls an ambulance was sent by the county welfare department. There was a happy ending because the x-rays revealed that there was no fracture. The patient was given the necessary treatment and was returned to her home.

As of June 23, the agency has an active caseload of 15 Cuban refugees who need further follow-up."



A young Cuban woman is visited at home by a Spanish-speaking public health nurse. Note that the nurse has removed her cap and put it on top of her bag. She found that the cap symbolized the military to many of her patients, and made them fearful in her presence.

In order to qualify for outpatient clinic care in the county hospital in Miami, a person must be a "citizen" of Dade County, which means that he must have lived in the county for one year, whether or not he is a citizen of the United States. (The place of residence of the husband determines the wife's status. This occasionally causes a problem when the husband has remained in Cuba and the wife is living in the United States.) In order to surmount the "citizenship" problem, many refugees are seen in the Emergency Room, since anyone who presents themselves there is treated. The medical clinic at the Cuban Refugee Center may also send patients to the Emergency Room, perhaps with a note of what has transpired in the Clinic.

Do these refugees have many emotional or mental health problems? It depends on who you talk to. The Child Guidance Clinic sees very few of them. Most of the children seem well-adjusted and enjoy much parental love and affection. Teenagers are said to want to stay in this country though the older members of their families long for the day of return to their homeland, though grateful for this haven. There is some fear expressed by children when parents are not present. An example would be the many who cried when their vision was tested during a routine examination at school.

What of the adults? The Cuban physicians who are on the staff at the medical clinic at the Cuban Refugee Center believe that many physical complaints stem from anxiety and nervousness: lack of employment; long days with nothing to do; loss of their professional activity; anxiety over relatives left behind; dwindling financial resources, etc. On the day of the abortive invasion this Spring, there were only a handful of patients at the clinic when formerly — and since — over 200 are usually seen each day. An added note is that a number (like Americans) were receiving regular psychiatric treatment in Cuba. Here only emergency care is available, so the refugee with an emotional disturbance must forego this assistance, unless his condition becomes acute.

The figures below give an idea of the number of people coming to the county hospital for aid. Refugees also seek aid at various private hospitals.

	Number seeking care at Emergency Room	Outpatient Clinic
1960		
November	11	2
December	15	0
1961		
January	41	5
February	58	6
March	17	9
April	48	7
May	108	32

In April outpatient payments were begun of $3.00 per visit. Naturally, this frequently does not cover the cost, and if it does not, the clinic must absorb it. An example would be a fracture where X-rays are required. Also, if a refugee is ill when the clinic at the Cuban Refugee Center is closed, he goes to a hospital. Patients now visiting the outpatient clinics are first certified by the State Department of Public Welfare, Cuban Refugee Assistance Program, that they are eligible for care.

A Cuban supermarket in the heart of Miami.





This establishment, it can be seen, caters to Cubans. Magazines are sold as well as meals.

SANITATION

The Cubans' standards of sanitation are not on the high level which many Americans consider desirable. Furthermore, both toilet and garbage facilities have been overtaxed when a number of families occupy a dwelling that was originally meant for only one. When the garbage can is full, the excess may be piled in paper sacks around the can — which is rarely washed after it is emptied.

A few Cubans are trying to establish restaurants. Frequently they had been restaurant operators in Cuba. The employees are fearful of X-rays and do not understand the necessity for health cards. Some problems arise because they know little about sanitation of dishes and often do not wash their hands during food preparation. The language barrier causes them to resist instruction because it is not possible to elaborate on the "why" of sanitary procedures.

The Health Department frowns on leaving a side of meat out on the block for long periods of time and not refrigerating it, and neglect of cleaniness of the same block which could be remedied by scrubbing it every day. Most sanitation instructions will have to be translated into Spanish, though there are a number already in this language.

Whenever people move to a new country, they face many changes in their eating habits. Not only must they become familiar with different foods, but ways of buying and methods of preparation may also vary. Add to these a "foreign" language, inadequate housing and cooking facilities, limited financial resources, separation from family and it will give you a better understanding of the bewilderment many of the Cuban refugees face when they arrive in South Florida.

Food has deep social and emotional meanings as well as supplying the needs of the body. It is, therefore, reasonable that the Cuban newcomers should attempt to maintain their basic eating habits insofar as possble. Understanding the differences as well as the similarities of the Cuban diet to our own food selection may help these people adjust to an adequate choice of food.

The Cuban food pattern does not appear unlike that of other Latin-American countries. The staple items are beans and rice. Red kidney beans, black beans, navy beans, pinto beans, chix peas and soya beans are popular. The rice used is a round, short-grained one.

Various sauces and seasonings add variety to the bean dishes. "Quisador" is a popular dish of red kidney beans mixed with Sofrita sauce. The sauce contains fat, salt pork, pepper, lard, achiote (a red coloring agent), tomatoes, onion and garlic.

Many of the starchy type vegetables common in Cuba are not found in Florida. These include chayste, malangas and yautian. Yams are used to some

Is tuberculosis a problem? No more so than among our own people, say the Health Department people. A total of 152 have been recorded as needing further study, but only three persons have so far been placed in a state hospital for treatment. The frustrating part of follow-up is the fact that it is difficult to check on suspicious cases because they often move several times before taking up permanent residence.



Another view of the busy well-child clinic. The figure on the right is a Cuban registered nurse who works as a clinic aide.

extent and, of course, these are available here. Other vegetables known to the Cubans are spinach, string beans, escarole, okra, green pepper, tomatoes, carrots, pumpkin and squash.

Coffee is the national beverage of Cuba. This, in contrast to coffee served in the United States is a very strong, thick brew. Also, a cup of hot milk flavored with a few teaspoons of the strong coffee mixture may be served. Since there are few cows in Cuba, fresh milk is not too common. Evaporated and dry milk are used instead.

Chicken and pork are used frequently in small amounts in a mixed dish with vegetables or rice. Dry codfish is a very popular protein food. It, too, is served with rice or vegetables, made into codfish balls, or as a salad with sliced onion, oil and vinegar.

In Cuba, as in Florida, many sub-tropical fruits thrive. Among

the more familiar ones are mango, guava, papaya and avacado.

Many supermarkets in the Miami area are making an attempt to supply those foods preferred by our Cuban visitors. On the shelves of these food stores are seen a great variety of dried beans and some root vegetables and spices unfamiliar to the average Florida customer. While availability of familiar foods is helpful, cost must be considered. Foods that are staples in Cuba may be expensve here, while foods that have been considered luxuries are comparatively cheap in Florida. Refined sugar and white bread, for instance, are among the least expensive foods in this country, while milk, vegetables and fruit are often comparatively expensive. Therefore, the Cuban is likely to choose his diet unwisely.

The U. S. Department of Agriculture is making available surplus foods to needy Cuban refugees for relief purposes. Eligibility for this food supply is determined by the State Department of Public Welfare. The foods which have been available for such purposes in recent months include non-fat dry milk, flour, cornmeal, rice, beans, dried eggs and peanut butter.

In order to help the Cubans become familiar with the surplus foods and to accept them in their diet, assistance is needed. One means of meeting this need has been provided by a public utility company with home economists on their staff. A Spanish-speaking home economist conducted a series of classes to demonstrate the use of surplus foods in food preparation and meal planning. Recipes were developed and the class instructed in Spanish.

In summary, a knowledge of Cuban food preferences and respect for their likes and dislikes may help build the bridge between the community and the people they seek to selp.

PROBLEMS OF THE PROFESSIONAL PERSONS

One of the biggest problems has been the influx of physicians. Over 300 are presently thought to have fled to Miami. They are not allowed to practice in this country unless their education has met American standards, and they have also been licensed by the state examining board. However, foreign physicians may take an examination which is given by the American Medical Association and accept positions in hospitals and sanitariums, where they work under the jurisdiction of a Florida-licensed physician. Another big factor has been their inability to use the English language.



The Catholic Latin Center, housed in the Gesu Escuela Catolico, is administered by a Catholic religious order. Their Clinic (one is held two mornings a week) is staffed by volunteer American physicians (assisted by a Cuban physician); aided by American registered nurses also serving in a volunteer capacity. A public health nurse from the Health Department visits this clinic one day a week, checks health records and makes follow-up visits. The Center also serves some of the refugees in finding housing, employment, with welfare problems — and on the day this visit was made — with the details of a funeral.

The University of Miami Medical School and the University of Havana Medical School (in exile) with the interest and assistance of the Dade County Medical Association have set up a joint endeavor to give refresher courses to these Cuban physicians so that they may qualify for the type of positions named above. A group of approximately 150 have already taken the first course and a second course for another 150 physicians was started in June. The results are self-evident when one considers that when physicians took the AMA examination before taking

the refresher course only 20 per cent passed. Following the course 68 per cent passed.

But perhaps a word picture would better present this phase of assistance to the Cuban doctors. This is the first meeting of the second course. The auditorium of the Health Department slowly fills. Attached to each chair is an earphone, for there is to be simultaneous translation to Spanish of everything that is said in English. Approximately 40 per cent of those present have had some previous American hospital experience, primarily as interns. The other 60 per cent have not had any experience outside their homeland. An American physician, representing the University of Miami, is supervising the evening meeting but he is assisted by several Cuban physicians who are handing out registration slips, outlines of the course, etc. Many of the men are middle aged, though all ages are represented. Papers and notebooks are in evidence. Many of the doctors know each other and a community spirit seems to prevail. There are a few women physicians also present.

The American physician opens the meeting and speaks slowly and distinctly. In an unpainted booth at the back of the auditorium sits the translator who watches the lips of the speaker intently and hears his words through large earphones which cover his ears. There is a tinny reverberation coming from the individual earphones attached to the chairs. Occasionally announcements are give in Spanish by a Cuban physician who sits by the American. He is a representative of the University of Havana. Other representatives of that school are also present.

A description of how the examinations will be given (in English) and in what form (multiple choice, etc.) is described in detail since this is vastly different from the way doctors are examined in Cuba. Complete attention is given the speaker — for this may be the beginning of a new life. Classes are being formed on various medical subjects, with a great deal of the teaching being done by former faculty members of the University of Havana.

NURSES

The problem of the nurses is like that of the physicians in that a nurse must be licensed by the State of Florida before she can practice in this state. In turn this licensing board must have knowledge of her educational background before they can even consider her examination and/or

licensure. It is now impossible to obtain this information from Cuba. So a steady stream of nurses, often professionals of many years standing in Cuba, file through such offices as that of the Health Department, seeking work and advice.

In May 1961 the Public Health Section of the Florida Nurses Association, District 28, in conjunction with the Dade County Health Department began a survey of the Cuban refugee nurses in the area. A list of 87 names and addresses was compiled at that time. The information came from the Cuban Refugee Center, from hospitals, through individuals contacting the Health Department seeking employment, and through an informal group of nurses called Colegio de Enfermeras in Exilio.

Of the 87 names compiled:

Were not nurses	7
Moved; unable to locate; left town	28
Midwives	3
Practical nurses	2
Registered nurses	47
	87

Nurses who were contacted were encouraged to enroll in English classes and their registration fee for these classes and financial assistance was underwritten by the two local districts of the Florida Nurses Association.

A number of the Cuban refugee nurses are now assisting the public health nurses in the Health Department clinics as nurse's aides. Many others are working in other areas in this same capacity. Apparently some have gone to Puerto Rico where the licensing regulations are less stringent.

The personnel of the Health Department for some time had recognized the need for a better knowledge of Spanish. For several years a number of nurses had studied the language at the end of the day in two of the outlying centers. Now a group of eight public health nurses, three sanitarians and one narcotics inspector have just completed a 96 hour course sponsored by Metro (Metropolitan Government of Dade County). A comment by one of the nurses revealed that the instructor had been unusually helpful, not only in teaching the language but in interpreting the culture of the Cubans to American public health workers.

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State Needs More Help With Cuban Refugees

The anniversary tomorrow of the revamped Cuban holiday of July 26 might well be observed as a day of mourning by the thousands of Cuban nationals and their friends in Florida. It is an occasion, too, for citizens of this state to turn their attention to the growing seriousness of the refugee problems here.

As a demonstration of their friendship to the Cuban people, as opposed to Fidel Castro's Red government, and as a free lesson in the workings of a free society, Floridians want to receive their temporary guests from Cuba as warmly and smoothly as possible. They want administrative procedures to reflect their hospitality. However, the sheer weight of numbers has begun to strain the situation.

That is why Governor Farris Bryant was entirely right in asking for a meeting with President Kennedy or other federal officials to discuss ways of shifting some of the refugees from Miami to other cities and states. Florida has been carrying a heavy burden for which it is not well equipped. After all, the acceptance of political refugees is a national concern, not the exclusive problem of any one community or state.

The current refugee program is a cooperative effort between the state and federal governments. But the problem is larger than providing housing, food and shelter. Language difficulties must be overcome, jobs must be found, the sick must be treated and children must be sent to school.

It was of these concerns the Governor wrote when he wired the President, "The difficulties in relocating individuals now in the Miami Area have led to community problems beyond the scope of the current federal-state refugee program to offset."

Certainly the refugees could be accommodated more easily if they were spread over several states. There is a natural tendency for displaced persons to want to remain as close as possible to their homes, which accounts for the 100,000 Cubans still in Miami, but this should be secondary in these days of rapid travel to better homes, jobs and schools.

Governor Bryant's request for assistance should not be interpreted by the Castro government as a complaint. Florida always has welcomed Cuban citizens. Large numbers of Cuban-Americans make their permanent homes in Key West, Miami and Tampa. But Florida does not want the warmth of its welcome to be chilled by the burden of numbers. The entire nation has a stake in receiving these guests and friends from Cuba. Over-crowding in a single area should not be allowed to create a situation that might be used against a host who lets all of his guests sleep in one room while the remainder of the home is uncrowded.

(Above is an editorial which appeared in the Florida Times-Union July 25, 1961).

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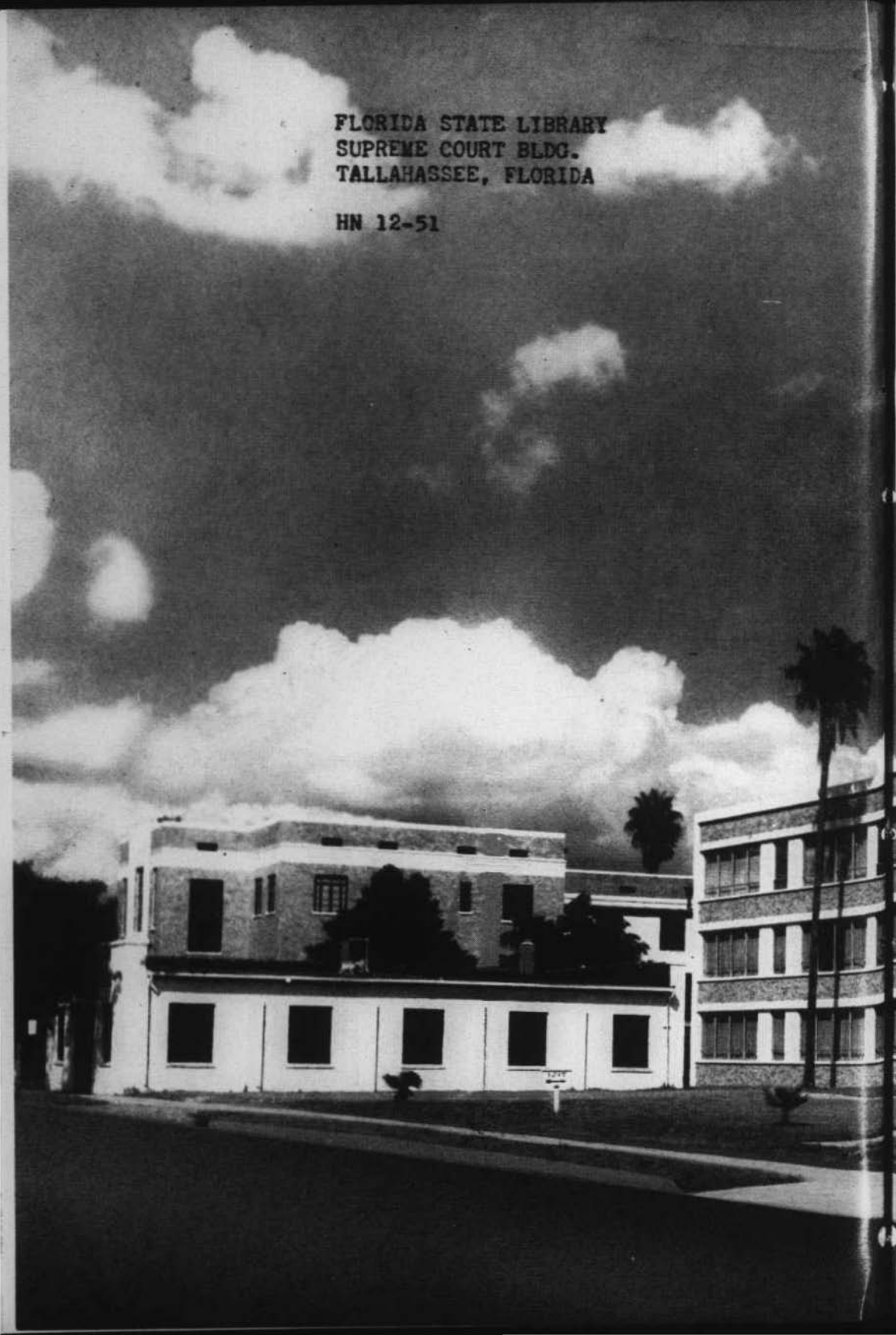
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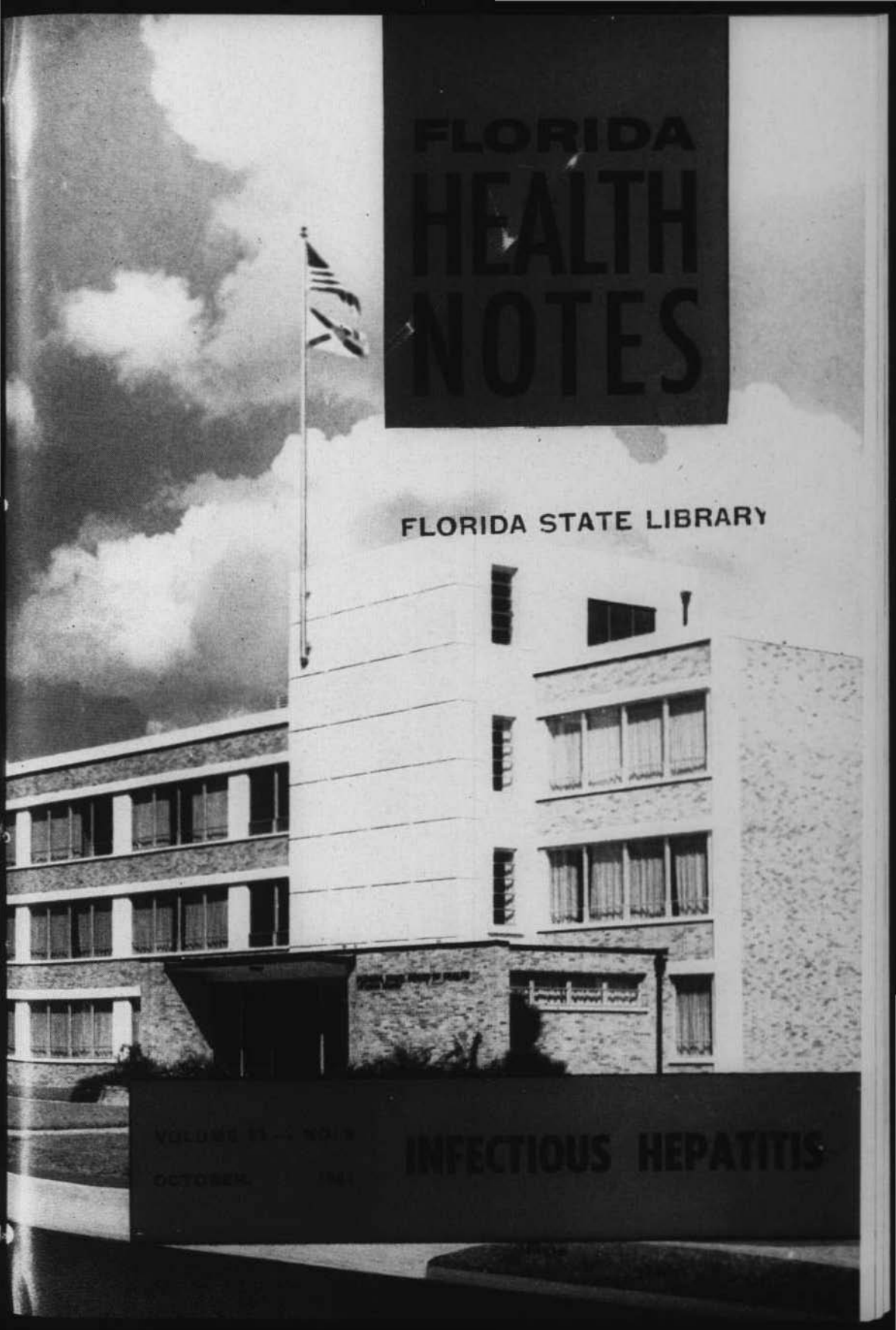
All counties in Florida have organized County Health Departments

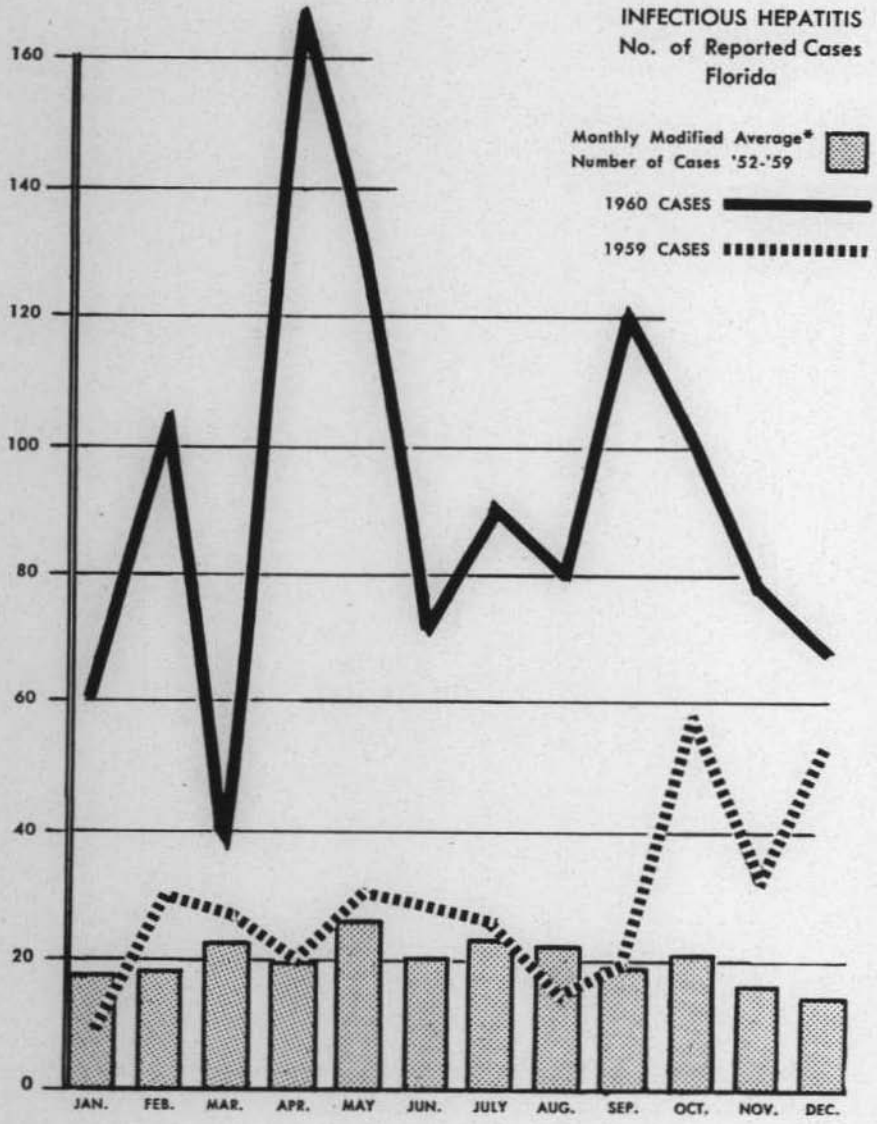
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INFECTIOUS HEPATITIS


INFECTIOUS HEPATITIS
No. of Reported Cases
Florida
Monthly Modified Average*
Number of Cases '52-'59
1960 CASES
1959 CASES
160
140
120
100
80
60
40
20
0
JAN.
FEB.
MAR.
APR.
MAY
JUN.
JULY
AUG.
SEP.
OCT.
NOV.
DEC.

Infectious Hepatitis

Tommy R——, a six-year-old, rose slowly from bed one morning and approached the breakfast table. Noting that he was not eating, his mother questioned him. The youngster said he didn't feel good. His face was flushed and felt hot to her hand so Mother took his temperature — 100 degrees. The child also complained of stomach pains so he was put to bed. A couple of days later he was up and around again. Slowly his appetite returned and the pains disappeared. A week later he was able to return to his first grade classroom but his sister developed the same symptoms and was also put to bed. The mother attributed both their illnesses to "some sort of intestinal flu, I guess."

James B——, a middle-aged business man, woke up feeling ill one morning. Although he realized he had some fever he went on to work anyway. As the day progressed he noticed that he had lost his appetite, had a slight headache and suffered muscular aches and pains. He took aspirin a couple of times during the day but got little relief. For two or three days this went on until one morning, after a very restless night, he noticed two unusual things — first, his urine was a very dark color, alarmingly so. Second, his stool was a pasty white. The family physician was called. The diagnosis — infectious hepatitis.

But, unlike the six-year-old, Mr. B—— was not destined to return so quickly to work. His eyeballs began to yellow and his skin turned a saffron color. He lost weight at a fast pace and none of the food his wife prepared for him looked appetizing. He spent almost three weeks in bed and another three weeks convalescing at home before he was strong enough to be allowed to go to the office even for half a day. It required almost three months before he was able to stand a full day's work. The yellow in his skin and eyes took several months to disappear.

FLORIDA HEALTH NOTES

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STEADY GROWTH

Infectious hepatitis has been slowly increasing in Florida. There were five times as many cases reported in 1960 as in 1958. This makes it a public health problem worthy of concentrated attention by your State Board of Health. Furthermore, since symptoms do not develop until the person is severely infected, it is, therefore, necessary that our citizens be alerted to the sources and means of spread of this illness. Though rarely fatal, infectious hepatitis causes economic loss from time lost at work as well as the cost of medical attention and care. Unfortunately, people are often transmitting agents of hepatitis even when they do not know they are infected and are not themselves ill.

Infectious hepatitis occurs most frequently among children. The largest percentage of reported cases occurs among the age 5 to age 9 group. The 10 to 14 and 15 to 24 age groups also have high attack rates.

The reported cases of infectious hepatitis in Florida rose from 242 in 1958 to 342 in 1959, to 1108 in 1960. It reached epidemic proportions in many parts of the state in 1960.

Infectious hepatitis has often been called yellow jaundice. Jaundice — where the eyeballs and the skin turn a sickly yellow color — is merely one of the symptoms of infectious hepatitis. Jaundice is also caused by other disorders, such as yellow fever (no longer a menace to Floridians) mononucleosis, relapsing fever, leptospirosis and many others.

Infectious hepatitis is caused by a virus which is carried in and transmitted through the intestinal tract. It is spread by the virus from an infected person being ingested (swallowed) by another person. To put it bluntly, if an infected person uses the toilet and fails to wash his hands before leaving the bathroom he may still have some of the germs on his hands. Since they are invisible to the naked eye he may think his hands are clean, but such is not the case. He may innocently hand you a fork at the dinner table. The germ is then passed to your hands. Next you pick up a slice of bread at the table which passes the germ to the bread. You then eat the bread and the germ is swallowed with the food. You become infected. This is, of course, just one of hundreds of ways in which infectious hepatitis can be transmitted, but is probably the most common.

In 1960 eleven epidemic investigations were carried on and two common-source epidemics were uncovered; one, in a state university cafeteria and the other involving a well contaminated by sewage from unsanitary privies, from which several families took water for drinking and cooking purposes. The remainder of these outbreaks were found to be due to contact spread.

CHARACTERISTICS

Within the State Board of Health's Bureau of Preventable Diseases is the Division of Epidemiology which studies the occurrence of these illnesses. Records of past epidemics of infectious hepatitis show that it is what is called a "cyclical disease," or one which follows a rather well established path of rise and decline over certain periods of time. Epidemiologists explain it in this manner: "A 'cyclical disease' is one which rises and falls over a period of several years. Measles has a two to three year cycle during which it rises until a large number of cases are being reported. Then it gradually dies out and only a few cases are reported each year for about two to three years. Then it begins to rise again. Infectious hepatitis seems to run a seven year cycle. That is, it takes about seven years from a minimum number of cases reported to the time when it is almost epidemic in proportion. Then it begins a decline back to the point where only a few cases are being reported.

"This is due to a curious fact: When the disease seems to be at its peak of infection, where many cases are being reported, a large segment of our population builds up an immunity either through infection or exposure resulting in immunity. This causes the attack rate to die down. When a new crop of susceptible people has come along who have no natural immunity the disease then seems to spring up and begin the cycle of infection all over again. This is one reason why the children age 5 to 9 seem to have the largest number of reported cases. The fact that they have no natural immunity, coupled with the fact that they do not practice good personal hygiene (such as washing their hands after using the bathroom) makes it easy for the infection rates to rise as each of these groups comes along."

Anticipating these peaks and valleys is part of the work of the epidemiologists and they try to prevent as much spread as possible by warning the public and advising how people can best prevent infection and spread of hepatitis.

PAST PERFORMANCE

"Jaundice," as hepatitis used to be called, is not something new. It has been known for two thousand years. It is mentioned in the writings of a Greek physician in the second century B. C. Since the 17th century there have been numerous reports of epidemics of "jaundice" in various places. During wartime, particularly, the disease reached tremendous proportions among the fighting men. Thus, armies fighting in the Napoleonic Wars, the American Civil War, the Franco-Prussian War, the South Africa War and both World Wars were severely affected. Infectious hepatitis among the military became known as "field jaundice" or "camp jaundice." History tells us that between 1629 and 1868 there were 53 European and 11 American cities or communities in which epidemics occurred and were reported.

Physicians learned very early that several types of "jaundice" existed. During the days of the yellow fever outbreaks, for instance, a person who had that disease would develop the typical look of the jaundiced person. Since many yellow fever victims died jaundice was associated with the high mortality, although it was not the principal cause of death. People who contracted mononucleosis, relapsing fever, or leptospirosis would also become jaundiced. Deaths from these diseases also made people believe that jaundice was highly fatal. Later, when doctors learned that jaundice was merely one of the symptoms of these diseases and not actually the principal cause of death they placed less emphasis on the jaundiced condition as a contributing factor of high mortality. Doctors also began to recognize that jaundice occurred occasionally when human serums were used to treat patients with any of these illnesses. This was difficult to learn since sometimes the jaundice did not develop until several months after the serum was administered. In fact, it was not until World War II, when 50,000 cases of jaundice developed after administration of yellow fever vaccine to the troops that the scientists were sure that "jaundice" might be an after effect of some diseases, as well as a disease in itself.

For hundreds of years the doctors were not able to isolate the germ that caused it. They did not know whether it was a virus, bacteria or some other type of germ. It was only in 1918 that the germ was placed in the virus classification. Because of the tremendous importance of this disease in World War II,

when so many thousands of men fell victim to it, it was finally decided that tests on human volunteers were justified. In 1943, the disease was successfully transmitted to human volunteers as an experiment. Using this same technique physicians further proved that although the symptoms are much the same and the results are similar there were actually two different viruses involved: One which was transmitted from person to person usually by contact, and the other which was transmitted by serum vaccines, blood transfusions or contaminated hypodermic needles.

Further tests of liver function and other chemical changes in the bodies of those who were experimentally infected, were compared with people who reported sick with the disease. These tests showed that the illness affected both in the same way. The most significant result was an inflammation of the liver, causing the yellow, jaundiced appearance. For that reason the term **hepatitis**, signifying only inflammation of the liver, has replaced the name **jaundice** for this disease. We repeat, **jaundice** is considered a symptom of several diseases, but **viral hepatitis** applies only to the two viruses which cause this specific illness.

TWO IN THE FAMILY

Well, what about the two viruses? How are they transmitted from one person to another? How long do they take to show up after we are exposed to them? How can we avoid becoming ill from them? Let's consider each in turn.

The two viruses are known to physicians and laboratory technicians simply as "Virus A" and "Virus B." Virus A is the one most commonly encountered and with which the public should be most concerned. As stated earlier, children are most often infected for the simple reason that this age (5 to 9) is most careless about washing their hands after using the toilet. This virus is carried in the stool and must be ingested (swallowed) by the person to whom it is transmitted. (When children play it is usually in close bodily contact with each other and the virus may be passed from hand to hand. Children frequently put their hands in their mouths and in this manner swallow the germs.) It then takes 10 to 50 days for the second person to develop the symptoms. The average is about 30 days. For this reason it is most difficult for a person to remember where he or she might have become infected, unless, of course, direct contact with an indi-

vidual who also had developed the symptoms was recalled. The virus is known to be in the blood two weeks prior to the onset of symptoms until the time the person becomes acuely ill. Then, after the symptoms have appeared the virus is known to be in both the blood and the feces. Both the feces and the blood may infect other people if they receive the virus orally or through the blood stream. It is for this reason that when you go to the blood bank to donate blood you are asked if you have ever had jaundice or have been exposed to a jaundiced person within the past 60 days.

Virus B is called by such names such as "serum hepatitis," "transfusion jaundice," etc. It is contracted only by taking vaccines made from human blood serums which may have become contaminated, by means of blood transfusions, or through infected needles when inoculated. This virus is present only in the blood and not in the feces or any other body wastes, such as urine, throat secretions, etc. This virus takes from 60 to 160 days to cause illness, and is usually accompanied by low grade fever, muscular aches, and pains, headaches, nausea and the typical jaundiced look.

From the above discussion it can be seen that there are certain precautions that can be taken:

* Teach your children to wash their hands after each use of the toilet. The earlier they learn this good habit the less chance there will be of **their** being guilty of spreading this disease, as well as many others. Since children are more easily led than driven why don't **you** set them a good example by always doing the same thing?

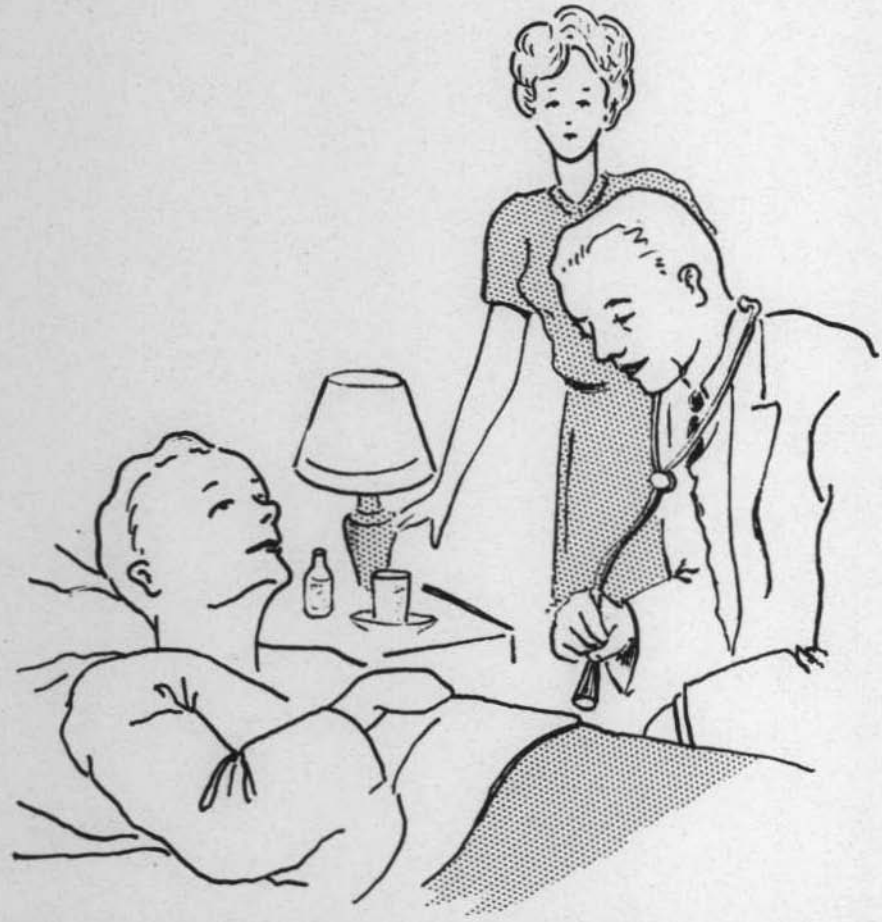
* Before you go swimming, wading or waterskiing be sure that the stream or lake you choose for your recreation is not contaminated. The State Board of Health and the County Health Departments issue permits to public bathing places after they have been tested and found free of contamination. You can easily determine whether or not a body of water is safe by phoning your local health department. If in doubt, just remember that there are still many Florida streams in which raw or partially treated sewage is dumped and which could bring sickness to your family.

* Oysters, clams and other seafoods sometimes come from contaminated waters. The State Board of Health works diligently to inspect our coastal waters and when areas in the vicinity of



ON THE TRAIL

of an epidemic



One case of hepatitis (or any other highly contagious disease) does not create cause for concern. But if several doctors each have one or more cases then public health officials may be concerned. For this reason physicians are urged to report all cases of communicable diseases to the local Health Officer. When an unusual number are reported the Health Officer sets up "precautionary surveillance" which means that he will contact these and other physicians to see if they have cases of the same disease or cases which they have not yet diagnosed but which they suspect might be the same disease. If there is any problem of diagnosis he has behind him all the facilities of the state laboratories and professional persons at the Bureaus of the State Board of Health to assist him to properly diagnose the suspected illness.

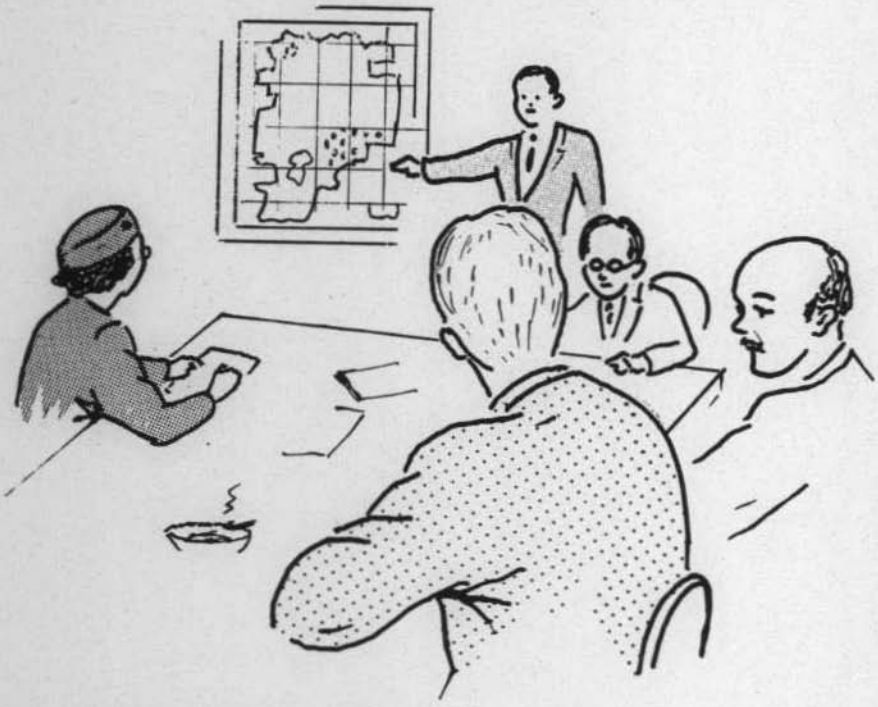


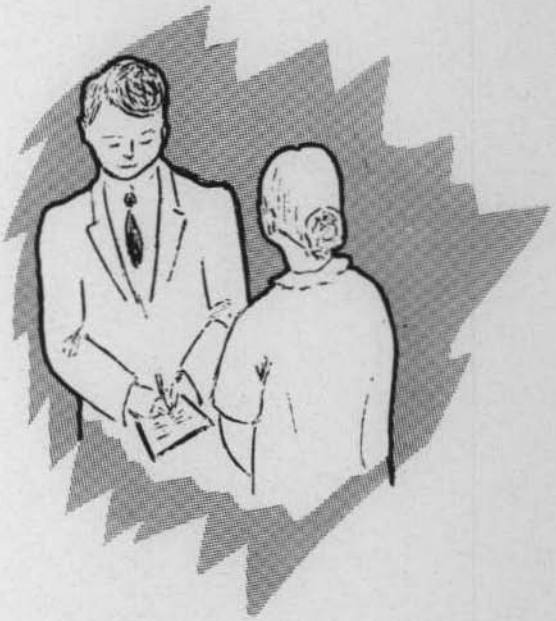
The Health Officer may ask that samples of blood, urine or stool be sent to the state laboratories for testing to confirm the doctor's diagnosis. The laboratories are maintained by the State Board of Health in nine locations about the state to quickly serve the needs of the Health Officers in such cases. Their findings are reported back to him so he will know what step to take next.



The rapidity with which cases are reported, as well as the unusual number of such cases convince the Health Officer that he is facing the possibility of a large outbreak unless he moves fast to find the source of the disease and break the chain of infection.

He may call on the epidemiologists of the State Board of Health for assistance. Here a conference has been called to study a map of the reported cases to see if there is a geographical concentration of illness which may point out a clue to the source of infection.





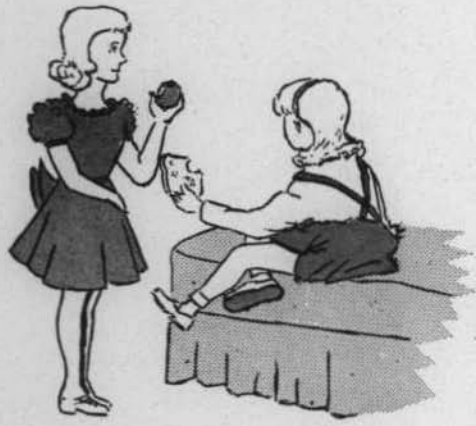
The tedious task of house-to-house investigation is begun by sanitarians and public health nurses. If the number of cases is mostly among children such places as school cafeterias, recreation areas and swimming pools are closely inspected for possible sources of infection.







The final analysis may point to several possible sources of infection. The children may be swimming in sewage-polluted waters, practicing poor habits of personal hygiene, or passing the infection through personal contact. The health authorities must then begin a program of health education or impose restriction on the use of recreation areas or other facilities believed to be the sources of infection.





shellfish beds become contaminated they are closed down and no commercial production is allowed until the contamination is cleared and the waters are again safe. Be wise — do **not** eat seafoods unless they are in approved containers, stamped by the State Board of Health as coming from clean, approved sources.

There are, of course, many other ways in which infectious hepatitis is spread. For instance, if your septic tank floods due to heavy rains the soil of your yard may become contaminated with hepatitis viruses. (And of course there are hundreds of other isolated ways in which hepatitis may be spread).

To decrease the chances of your getting hepatitis from food in eating establishments, health cards are issued to food handlers in many localities. One of the requirements for a health card in many areas is attendance at food handlers' schools sponsored by County Health Departments throughout the state. Here the elements of good personal hygiene are underscored again and again. Many health departments place large cards inside the rest rooms used by employees of these establishments, urging them to remember to always wash their hands after toilet use.

Since Virus B hepatitis is spread by such things as blood transfusions, inoculations, etc., the answer here is proper sterilization of hypodermic needles and syringes. Blood used for transfusions and the manufacture of serums is never knowingly accepted from donors who have been infected with hepatitis — as well as a number of other diseases. Generally, platinum needles are used now for transfusions. These needles are, following use, heated to a bright cherry red to kill any viruses present and to prevent their transmission to the next patient.

The layman cannot, of course, do anything to protect himself from infection by means of transfusion or unsterile needles. However, the fact that such cases are now very rare indicates that the healing professions recognize their responsibility and maintain the strictest vigilance over all phases of this possible mode of transmission of the disease.

ANIMALS?

One question always posed to physicians is, "Can I get infectious hepatitis from animals?" The answer is "No." Hepatitis has been found to exist in dogs and foxes and a similar type of virus in ducks and mice. Experiments have been performed to

try to infect humans with the animal viruses and to infect animals with the human viruses. But in neither case has it ever been successfully performed. Exhaustive tests seem to indicate that there is no harm to humans by animal hepatitis viruses or vice versa.

OUTLOOK

What should one expect if he contracts infectious hepatitis? How is hepatitis treated?

The first signs are usually slight fever, headache, loss of appetite, perhaps nausea and then the yellowing of the eyeballs and skin. The urine turns dark brown and the stools become pasty white or gray. Chills also develop in many cases. Although the infected individual frequently feels ill he may feel good enough to go to work rather than to bed. When he finally calls on his doctor (which he should have done in the first place) and a diagnosis is made, the usual treatment is diet and rest. In time the disease runs its course and then convalescence begins. This could be a short or long time depending on the age of the victim and severity of the attack. At one time the patient was placed on a very strict diet which eliminated all fats, such as butter, margarine, fried foods, etc. Today the diet is not so strict and the physician will usually allow a moderate amount of all foods, especially proteins. Dairy fats have been found to be well tolerated and since they add to the tastiness of the food are stressed to encourage the patient to eat better and consume more calories daily.

It is important, of course, that the other members of the family be protected against infection when one member becomes ill. Usually the physician will prescribe gamma globulin injections for them. Gamma globulin does not kill the virus — it merely injects into the family member antibodies from another person which neutralize the viruses and prevent the onset of the hepatitis symptoms. It prevents inflammation of the liver and also prevents the yellowing of jaundice. Pregnant women who have been exposed to infectious hepatitis are given gamma globulin to prevent any potential complications of pregnancy. If a pregnant mother notices any of the symptons of hepatitis developing (or any other unusual condition which she thinks the doctor should know about) she should report it to her doctor and let him administer whatever treatment he thinks advisable.

Infectious hepatitis is usually accompanied by a noticeable loss of weight. Even in mild cases the weight loss may be as much as ten pounds or more. This is attributed to the lack of appetite and poor eating of the infected individual.

RECAPITULATION

To sum up: infectious hepatitis has been with us for hundreds of years. It seems to be on the increase in Florida as well as the rest of the nation. Though "cyclical" in nature you can help prevent its spread by knowing how it is spread and how to shield yourself and your family to the best of your ability. The important thing is that **all** our citizens know the source and means of transmission of hepatitis and that **all** our citizens follow these simple rules:

* Don't leave the bathroom without washing your hands thoroughly.
* Don't swim in or use lakes or streams for recreational purposes unless you are sure they are not contaminated by sewage or other means of disease contamination.
* Don't eat seafood, especially shellfish, which come from waters designated as contaminated by the State Board of Health. Look for the processors certification number on each carton of oysters or clams you purchase at the store.
* Do not eat oysters or clams you happen to find in a stream or which are offered to you by "bootleg" dealers.

FLORIDA TOPS SOUTH'S LIST FOR HEPATITIS

WASHINGTON, July 31 — Florida continues to lead all South Atlantic states in the number of hepatitis cases reported weekly to the Public Health Service.

For the week ending July 23, Florida reported 46 new cases as compared with only 8 during the same period last year. West Virginia was the only other state in the South Atlantic region which even approached Florida's number. It reported 26 cases.

The new report gave the Sunshine State a total of 897 cases reported this year as compared with 683 cases during the same period in 1960.

In the total number of cases reported this year, North Carolina leads the South Atlantic states with 1,217 cases while West Virginia is second with 1,115 cases.

Virginia with 912 cases ranks third while Florida is fourth.

(Florida Times-Union, August 1, 1961)

LOOK FOR THE CODE!

The very nature of shellfish, that is the oyster and the clam, demand that they be gathered from areas proven to be of high bacteriological quality and processed under satisfactory sanitary operational practices. As these products are consumed raw they are a very vulnerable source of transmission of specific diseases. Under the regulations of the State Sanitary Code the State Board of Health and County Health Departments make sanitary and bacteriological surveys of growing areas, delineate open and restrictive areas, inspect shellfish plants, conduct laboratory investigations and carry on control measures to insure that the shellfish reaching the consumer has been grown, harvested and processed in a sanitary manner.

The state annually issues numbered certificates or permits to approved shellfish dealers who comply with agreed upon standards and forwards copies of the interstate certifications to the U. S. Public Health Service. The USPHS, under a cooperative control program with the shellfish producing states and the industries, endorses the respective state control programs in compliance with basic recommended standards, and publishes a semi-monthly list of all valid interstate shellfish shippers certified by the state control authority.

Certified producers are assigned an identification number preceded by the state abbreviation. As an example, take FLA-123. This number is required to be printed or embossed on the shellfish container along with the name and location of the shipper processor. Oysters and clams sold as shellstock are required to be similarly certified and each bag or container of shellstock is required to be tagged. This tag displays the certified identification number as assigned. This information as printed and circulated by the U. S. Public Health Service furnishes all County Health Departments with adequate information for the control of shellfish products found offered for sale at each retail outlet within the state. The identification number also provides the consumer with a safeguard in purchasing these products. The consumer should look for the certification or identification number on the containers and refuse to buy products not properly identified. Certification assures the consumer of adequate supervision of the taking of these products from approved waters within the states and regular supervision of the operation of the processing plants. If in question or doubt, call your County Health Department for verification.

The public should be cautioned against buying shellfish from individuals without definite knowledge that they have been approved by the State Board of Health. Such operations are usually known as "bootlegging," and are a menace to the good health of our people. These products are unquestionably taken from unapproved growing waters and may be grossly polluted. **It is a known fact that waters near sewage outfalls will produce extremely fat oysters.** The certified dealers in each area are familiar with the approved growing areas and they have a responsibility to sell products consistent with acceptable bacteriological standards and high quality.

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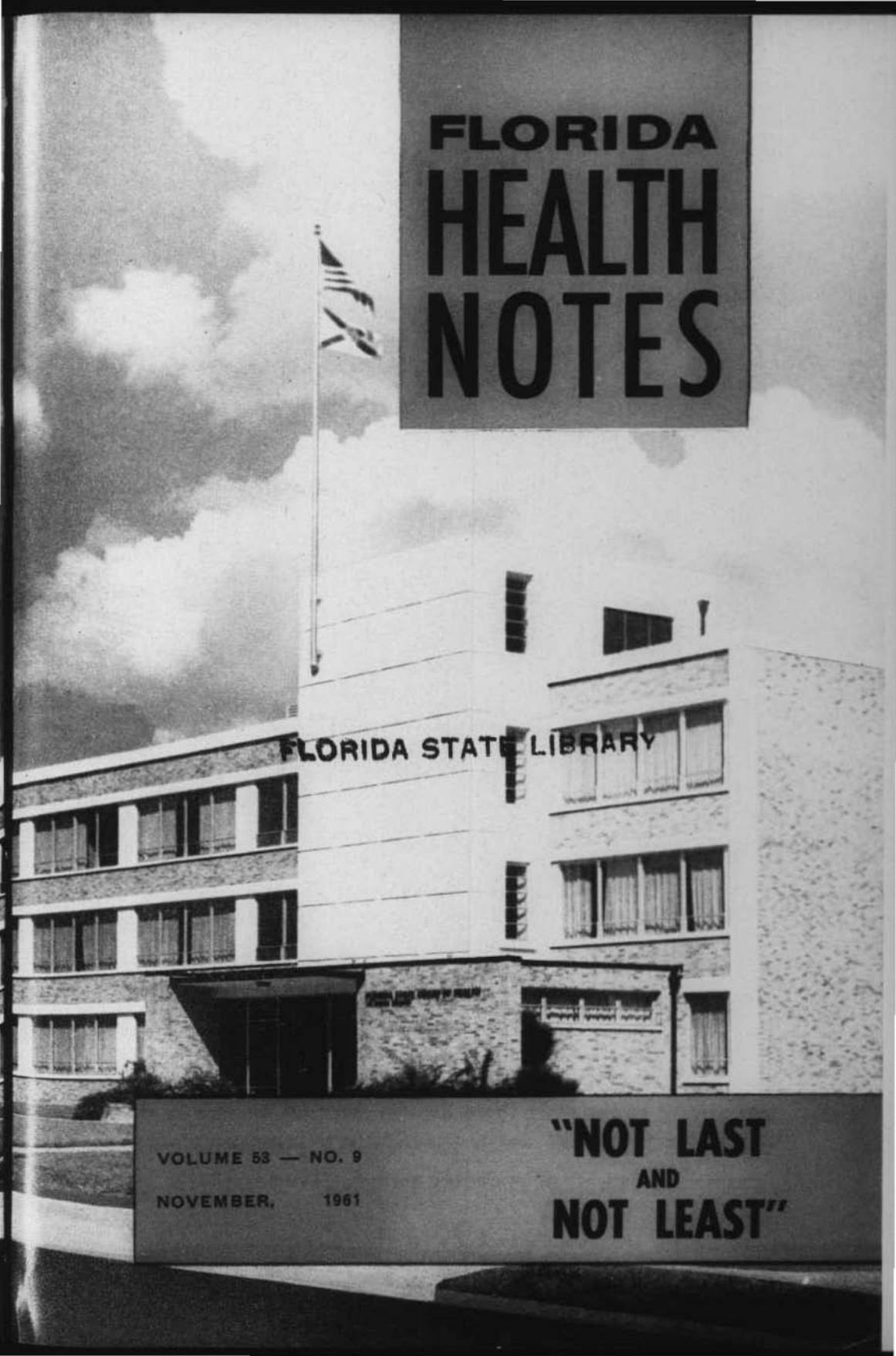
All counties in Florida have organized County Health Departments

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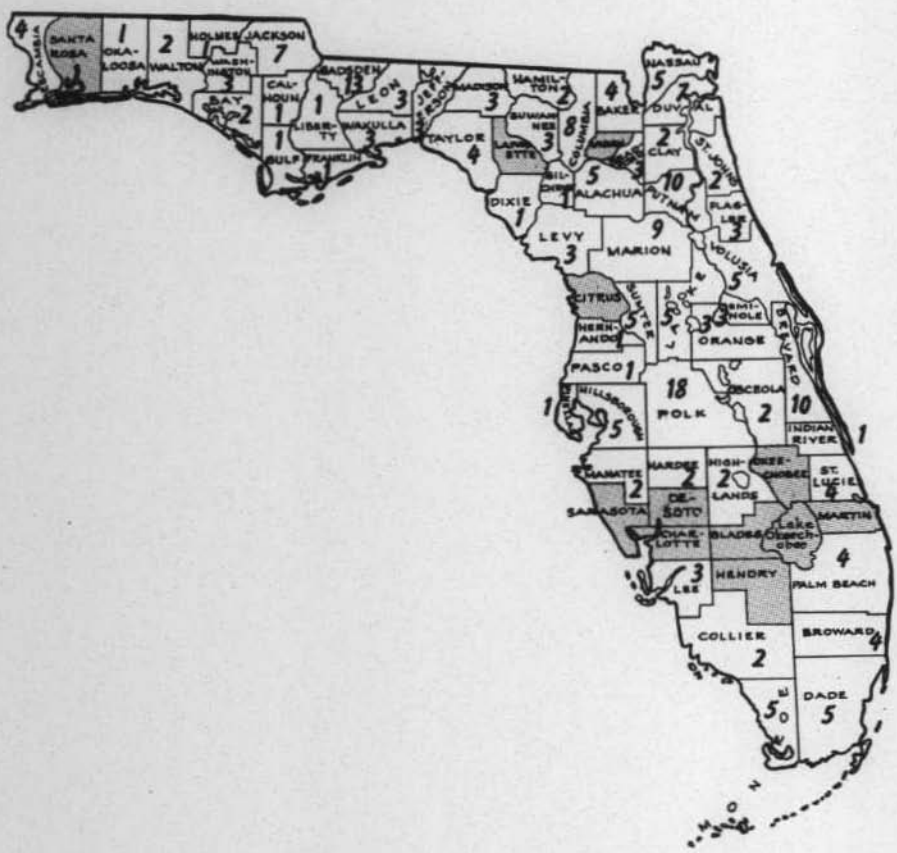
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VOLUME 53 — NO. 9

NOVEMBER, 1961

"NOT LAST AND NOT LEAST"

MIDWIVES IN FLORIDA



Shaded counties have no licensed midwives. The number of midwives licensed in the other counties is shown numerically and reflects the need for their services in these areas. With the population growth of the state there has also been an increase in clinical and hospital facilities which have made it possible to gradually decrease the number of midwives needed. **(See page 201).**

"NOT LAST AND NOT LEAST"

It takes all the parts to make a whole — and in public health it takes a variety of activities and programs to protect your health. Naturally, the larger, more dramatic, and most expensive activities are the ones you are likely to read about. But we are going to tell you, in this issue of *Florida Health Notes*, about some little-known activities and problems in public health both past and present.

For instance, did you know there are diseases which are not really what they appear to be? The portion of this issue dealing with "Unclassified Mycobacteria" tells you about these diseases and why the State Board of Health is doing research to try to learn more about them. Many people are not aware that saliva from the mouths of children is tested to tell whether they might be subject to more than normal tooth decay. The beds and pillows you sleep on tonight, as well as any other bedding items you own, must pass certain rigid requirements in manufacture before you can purchase them. All to protect your health.

Insulin for diabetics, supervision of sanitation at natural bathing places, housing for migrant laborers, disposal and transportation of human remains, safeguards in adoption of children — these and other items of interest are between the covers of this issue of *Health Notes*.

We hope you enjoy this collection of "oddments" which we have prepared.

FLORIDA HEALTH NOTES

Published monthly except July and August on the 5th of the month by the Florida State Board of Health. Publication office Jacksonville, Florida, headquarters of the State Board of Health. Entered as second class matter, October 27, 1921, at post office, Jacksonville, Florida, Act of August 24, 1912. It is intended primarily for individuals and institutions with an interest in the state health program, public and private. Permission is given to quote any story. Clipping of quotations or excerpts would be appreciated.

Bedding Inspection Law

Prior to 1953 Florida had no Bedding Inspection Law, although most other states already had one in operation. This meant that inferior and unsanitary materials were being shipped into Florida and were being purchased by our citizens. Only one manufacturer of nationally distributed bedding was located in our state. Following enactment of the law an inspection staff was set up to insure proper observance of the provision and limitations of the law. The law described as "bedding" or "article of bedding" any mattress, pillow, cushion, quilt, bed pad, comforter, upholstered spring bed, box spring, davenport, day bed or couch, used or intended for use for sleeping purposes.

The law gave the State Board of Health the authority to cut open these articles at times and inspect the filling materials in the laboratories. Some of these tests brought to light some interesting facts about filling materials. Here are some of the things the inspectors found:

* Bits of paper, rags, straw, trash and floor sweepings.
* Nails, tacks, pieces of wire and various small tools.
* Second-hand shredded rags, used cotton felt, wood shavings and excelsior glamorously described as "wood-wool", odorous fowl skin adhering to unclean and poorly processed feathers.
* High bacteria counts, ammonia and urea from body secretions indicating second-hand or prior sustained use.

Manufacturers are required to affix a "law-label" to each item which bears a one or two cent stamp from which is derived revenue to help support the cost of the inspection program. These labels must show the prospective purchaser exactly what materials are contained in the fillers. As a purchaser you may place confidence in these labels for the manufacturers have given good cooperation to the support of the program. Incidentally, today there are eight manufacturers in Florida whose products are distributed nationally. The Bedding Inspection Law undoubtedly had some influence on this increase in the industry in our state.

This arm of the State Board of Health also protects your pocketbook. When you go to buy bedding look for the label (it is sewn into the bedding and must not be detached, even by you). It will tell you that you are not buying misrepresented materials.

You will not be paying a premium price for lower quality merchandise. Above all, your health will be protected since you are assured cleanliness and healthy quality.

Shellfish

Shellfish present a unique problem in public health. If such foods were produced in the same way as ordinary meats and vegetables they would be on the lists of the State Department of Agriculture, and their cleanliness would be the sole responsibility of that agency.

But shellfish are produced in our coastal waters *where sewage pollution may be present, they are highly perishable* and *they are often eaten raw.* For these three closely connected reasons shellfish demand a program of surveillance and control which can best be carried out by personnel trained in the fields of sanitation and sanitary engineering. Hence the responsibility of the State Board of Health for its administration.

There is no federal program of inspection or licensure of shellfish plants similar to that for meats. There is, however, a Shellfish Program Endorsement Plan carried on by the U. S. Public Health Service which is intended to meet somewhat the same purpose. In order to sell oysters, clams and crabmeat products across state borders, the packers of a given state must meet the requirements of their own state's sanitary code. In turn, this code and its enforcement and implementation — licensure, inspection, etc. — must meet the requirements of the Shellfish Program Endorsement Plan of the U. S. Public Health Service.

Florida's oyster packing is concentrated mostly in the Apalachicola Bay area, with additional plants for oysters and other shellfish scattered among other coastal counties. The State Board of Health, through the Bureau of Sanitary Engineering, with the indispensable help of the sanitarians of the counties involved, carries out this program of licensure and inspection. Samples of the waters in which the beds lie, and of the products themselves are tested in a special laboratory. Gathering areas are opened and closed, according to the results of these tests. Plants are certified to offer their products for sale on the same basis. The state uses education and voluntary cooperation first, and law last, to obtain the necessary compliance.

Insulin for Diabetics

The distribution of insulin to indigent diabetics is the oldest phase of the Diabetes Control Program in Florida. It began in 1935 when a diabetic member of the legislature introduced a bill which provided funds for the purchase of insulin to be distributed through the Florida State Board of Health.

Insulin, a substance that is produced in the pancreas gland, serves to control the blood sugar level. When the pancreas gland fails to produce a sufficient amount of insulin, the disease that develops is known as diabetes mellitus.

The manner of insulin distribution is simple and as fair as possible. Insulin is purchased by the state and then allocated to the County Health Departments on the basis of their reported caseloads. After a diabetic meets the eligibility requirements of medical indigency to receive insulin, he then has to submit a prescription from his physician every three months. In most counties, the health officer or his nursing staff determine whether or not a person is eligible to receive free insulin.

In Duval, Hillsborough and Dade Counties, insulin is shipped directly to the county clinics for welfare patients. Medically indigent patients may, however, also receive insulin through the County Health Departments in these counties in certain instances.

The 1961 Legislature increased the appropriation for insulin to $80,000 a year, as compared to the $36,000 per year allowed during the last several bienniums.

Migrant Housing

The public press has carried many times the story of the knotty and controversial problem of migratory agricultural workers in Florida. They are not permanent citizens; anywhere they go they tend to seek the lowest cost housing, regardless of the condition of repair and seem not to be concerned over sanitary facilities or lack of them as the case may be. Some growers, hiring laborers by the day, were reluctant to provide better than the most meager housing. Health authorities, interested in preventing the spread of disease, had to work as best they could without statutory authority until 1959.

Now all that is changed. Today Florida laws provide for the licensing and inspection of migratory labor camps, and the issuance

by the State Board of Health of rules and regulations for their operation. Inspection and enforcement of the law is carried out by the sanitarians of the County Health Departments. The regulations call for the provision of proper camp sites, buildings and shelters; hot and cold water supply; ventilation, heating, garbage and refuse disposal; insect and rodent control; toilets, bathing facilities and laundry provisions; cooking and dishwashing facilities; food storage, bedding and general camp sanitation.

There are approximately 50,000 migratory workers employed in 40 of our 67 counties, six to eight months a year. Some of these live in rooming houses or other places which come under the jurisdiction of the State Hotel and Restaurant Commission. (The law defines a "camp" as an area wherein 15 or more migrant laborers reside.) Nevertheless, there were 167 camps licensed in 16 counties during the peak of the 1960-61 winter vegetable season.

Natural Bathing Places

Thousands of youngsters today, raised in the synthetic environment we have so laboriously created for them, have never once dunked themselves in an "old swimmin' hole." Many of them are not aware that there is any place to swim other than a man-made concrete or plastic pool or in the ocean.

But the old swimming hole still exists, and is recognized by the State Board of Health to the extent that 63 such places in the state have been issued certificates after proper inspection and water testing. Most of these certificates have been issued to organized camps, state parks and other recreation areas of the more rustic nature.

With its hundreds of miles of shoreline and thousands of lakes and rivers Florida presents an enormous problem to the sanitarians and engineers responsible for checking natural bathing places. There have been relatively few permits issued to such places and the large volume of them obviously makes it almost impossible to catalogue them. Nevertheless, as closely as possible these places are checked for sanitary measures and controls. Here again, public cooperation and understanding in not creating unsanitary conditions are necessary to insure the comfort and safety of all persons using these recreational areas.

Adoption Safeguards

Many functions of the State Board of Health involve human emotions. One such dramatic activity is concerned with the protection given information on a birth certificate for an adopted child.

There were 4384 adoptions recorded in the state in 1960.

Since most adoptions occur during the early months of a child's life the child itself is usually never aware of what is done to protect both his rights and those of his new parents. At the time of birth all information is listed on the birth certificate, which remains confidential in the files of the Bureau of Vital Statistics. When the child is adopted, the court sends a report to the Bureau and a completely new birth certificate is made up and substituted for the original. This then becomes the legal birth certificate and establishes the parentage of the child under the name of the adopted parents. There is nothing to disclose the fact of adoption.

The original certificate is immediately filed away in a sealed envelope. Only a court order or the request of the registered child (after attaining legal age) can ever bring it out again. Similar protection is given to the birth certificate of a child born out of wedlock, which may be amended subsequent to the marriage of the parents.

If the child is born in another state the same protection is given and the public record shows the true legal status of the registered person.

Thus do the "bookkeepers of life" keep from prying eyes the personal affairs of the citizens they serve, while duly recording the vital statistics which are given into their keeping.

From Death To Interment

One of the many responsibilities of the State Board of Health is the assignment of rules and regulations for transportation or storage of human remains. The purpose of these rules is to protect the health and well-being of our citizens without intruding upon religious and esthetic preferences of the family. Where death was due to certain contagious diseases special sealed caskets or containers are required. Sealed caskets or containers are also required for transportation by a common carrier or for interment in a mausoleum or vault above ground.

The Vital Statistics Chapter of the State Law establishes a death registration system which promotes the interests of society and the individual in the following ways:

First, it establishes authentic records of the facts of death; second, it provides for official, objective investigations in the cause and manner of certain types of death; third, it provides an orderly means for disposal of the dead. This law is administered by the Bureau of Vital Statistics, and directors of County Health Departments are the local registrars in each county.

The funeral director who takes charge of a dead human body is responsible for securing a completed death certificate and filing it with the local registrar within 72 hours after death. Upon receipt of a satisfactory death certificate the local registrar can issue a burial-transit permit. This permit is required before a human remains can be legally disposed of or removed from the county, or before the lapse of 72 hours. To aid in the enforcement of this law a common carrier must require an accompanying permit to transport a dead body and a person in charge of a cemetery or a crematorium must require a permit to allow the disposal of a dead body.

The local registrar must assure himself that the medical certification as to cause of death has been properly completed and signed. The law requires the physician who attended the deceased to certify the cause of death unless the death comes under the jurisdiction of the coroner or medical examiner. The coroner or medical examiner is responsible for investigating deaths from violence or suspected violence, sudden or unexpected deaths from natural causes, and deaths without medical attendance.

A few counties in Florida have provided for a medical examiner. In the other counties the Justice of the Peace or the County Judge is the coroner, ex-officio.

The proper investigation and certification of deaths has a significance beyond those deaths involving criminal violence. Many civil actions in court are based on whether death was due to accident, suicide or natural causes.

Midwives

Long before the physicians became actively engaged in the practice of normal obstetrics, midwives acted as attendants for

women in labor. Although most of the deliveries were performed by midwives, their activities were governed by physicians who assisted with difficult cases.

However, their number has been slowly decreasing through the years — they are still very much a part of the public health picture in Florida. In 1960, 228 midwives delivered 6010 babies, or an average of nearly 30 babies each. In 1955 there were 336 registered midwives and in 1950 there were 422 registered midwives. The statewide educational program for midwives and the public contributed to the reduction of the vast number of midwives in Florida.

The midwife licensing program by the Florida State Board of Health began in 1931; before that time, there were many older women, mostly Negro, who served as midwives in the rural districts without supervision of any kind. Their methods were often crude and unsanitary, and superstition was rife. They made no effort to register the births they attended; many of these midwives were illiterate.

Today, the picture is different. Many licensed midwives are intelligent and dedicated women. They attend educational classes conducted by the State Board of Health's Certified-Nurse-Midwife, who is also a public health nurse consultant. She works closely with the public health nurses in the County Health Departments. The midwife is trained to note signs of complications before birth, and if she recognizes them, she calls upon the private physician for aid and advice. The director of the County Health Department or public health nurses are called upon if further assistance is needed in the referral of the patient to the hospital. Lest there be some misunderstanding, midwives are not intended as replacements for doctors. There are certain socio-economic conditions in some areas of the state that create a need for midwives but a licensed midwife is not permitted to deliver a patient who has not first been examined by a physician, preferably early in pregnancy. If the physician's examination reveals that the patient might experience difficulty, or that her life or health might be endangered, the expectant mother is urged to have a physician deliver her baby in a hospital if at all possible. Low-cost maternity programs instituted by physicians and hospitals have made it possible to discontinue the licensure of midwives in eleven Florida counties.

Unclassified Mycobacteria

Medical research many times has its beginning in unexplainable conditions that arise when doctors are treating diseases. Some years ago physicians were puzzled by patients who were admitted to tuberculosis hospitals with what appeared to be active tuberculosis, but the disease did not respond to routine tuberculosis treatment and when sputum from these patients was examined the normal tubercle bacilli did not appear. They logically reasoned that this must be a disease which affected the lungs much the same as tuberculosis but was due to a different organism.

For several years now a research project, under the direction of a physician, has been going on at the State Board of Health to learn more about this disease that looks like tuberculosis but isn't. They have learned much, although all the answers are not yet available. For instance, they have been able to isolate the bacilli and they know what they look like (and they look different from the tuberculosis bacilli); they have learned that there are four classes of these bacilli and they have been found present in people who gave no sign of disease; there is a distinct seasonal variation in the incidence of the disease; cases seem to cluster in family groups but transmission from human to human has not been established; where the disease exists in the presence of the organisms there seems to be evidence that the individual had prior damage of the lungs due to other causes; that numerically there are more elderly white men with the disease but it is much more prevalent, percentage-wise, among the elderly colored men; it most frequently attacks men who were born in and lived most of their lives in the southeastern states; it occurs most often among the lower socio-economic groups.

The above are conclusions reached thus far but the research physicians hasten to remind us that they are only tentative conclusions pending much further study, so that eventually this disease can be properly named and treated.

Diagnostic Laboratory Tests Using Fluorescent Antibody Procedure

One of the many interesting but little publicized programs being carried on by the Florida State Board of Health is the adaptation and evaluation of the fluorescent antibody procedure

for the rapid identification of disease-producing bacteria and viruses. The basic technique was first published in scientific literature in 1940; however, its potentialities could not be explored immediately because of the interfering war years. In the early 1950's, a few research and public health diagnostic laboratories initiated studies on the use of the fluorescent antibody procedure as a rapid diagnostic test procedure.

The State Board of Health began work on the application of this procedure to the rapid diagnosis of rabies in animals. After several years of intensive effort, a satisfactory diagnostic test was evolved and evaluated. It is currently a part of the diagnostic routine for rabies in the State Board of Health Laboratories.

To appreciate the value of this procedure, one should compare its use to the conventional tests used in the diagnosis of rabies. The conventional direct smear test made from the brain tissue of a suspect animal requires only a few minutes to perform and can be expected to detect approximately 90 per cent of the positive animals. Because of its speed and relative simplicity, it is still included in the diagnostic routine. The second conventional test requires the inoculation of brain tissue from the suspect animal into mice. This test is very sensitive and will diagnose almost all rabid animals; however, a period of two to three weeks is required to complete the test. Fortunately, the fluorescent antibody test which requires several hours to complete, will yield results that are entirely comparable to the "mouse" test. For this reason, the mouse test has been taken out of the routine and replaced by the fluorescent antibody test.

Further studies are in progress to determine the usefulness of this procedure to identify other pathogenic viruses and bacteria. Among those being studied are tests for poliomyelitis, streptococcus, gonorrhea, syphilis and diphtheria. None of these procedures are ready for routine use at this time.

The fluorescent antibody test is based on the principle of applying a specially prepared serum to a microscopic smear of the micro-organisms and examining the resultant mixture under a microscope with ultraviolet light. The serum containing certain antibodies tagged with fluorescein dye will attach to the specific micro-organisms (if present) and act as a marker. When the ultraviolet light shines on the slide, it will cause the organisms to

fluoresce (or glow) which can be seen through the microscope. With experience, and with proper control preparations in the test, the bacteriologist is able to determine the presence or absence of virus in animal tissues and to identify unknown micro-organisms.

Lactobacilli Laboratory Count Used To Control Dental Decay

Consistent with the basic rules of public health is the old cliche, "An ounce of prevention is worth a pound of cure." This aptly applies to a little-known service operated jointly by the Bureau of Dental Health and the Bureau of Laboratories. The service consists of making laboratory tests on saliva samples to determine the presence and number of lactobacilli micro-organisms which always appear to be associated with dental decay.

Acid-forming bacteria feed upon carbohydrate material in the mouth and the acids formed hasten tooth decay. The number of these micro-organisms present in the mouth at the time of the test indicates the amount of decay activity which may be expected if the patient continues to eat large amounts of carbohydrates. Of course, the higher the lactobacillus count, the greater the amount of tooth decay an individual may expect.

The results of the lactobacillus test are sent to the dentist concerned and he is then able to advise a diet for his patient that will reduce the amount of carbohydrate upon which the acid-producing bacteria feed. The likelihood of decay is thereby greatly reduced.

This free service was inaugurated five years ago by the State Board of Health and to date, more than ten thousand people have benefited. In 1960, there were 2794 such tests made.

Mail Count

The amount of incoming mail for any business or agency has always been a good barometer of general activity. Figures recorded during a recent average week showed that the State Health Officer's own staff processed over 570 pieces of incoming mail intended not only for the State Health Officer's personal attention but also for various bureaus and divisions. This included everything from minor nuisance complaints to communications from the Governor. The Central Laboratory (and there are four other laboratories)

during this week received 2964 specimen containers in addition to 245 pieces of mail. Next in magnitude was the Bureau of Vital Statistics which received 2572 requests for information concerning births and deaths, marriage and divorce records, and other matters of similar nature. The Bureau of Preventable Diseases received 796 letters, packages of X-ray film and reports of communicable diseases. The Division of Health Education, which publishes *Health Notes*, received some 480 cards and letters requesting pamphlets, films and other items used in health education.

So it goes until the total incoming mail for an average week by actual count, for all the bureaus and divisions of the State Board of Health amounts to 10,740 separate pieces of mail. During the same week the outgoing mail count reached 12,949 pieces. All of this does not take into account the contact the general public has with the 67 County Health Departments which are even closer to the daily life of the people than is the state agency.

WHATEVER HAPPENED TO . . .

Rapid Treatment for VD?

During World War II a strong campaign against venereal disease was set up, using the new wonder drug, penicillin. It had been found that the dread syphilis, intolerable in an area containing so many military training bases, responded readily to penicillin and other antibiotics. As a cooperative effort of the federal and state governments, Rapid Treatment Centers were established, where victims of the disease could be treated at no expense to themselves. The therapy involved massive doses of penicillin over a period of several days. A number of the centers were established in Florida, one aboard a surplus hospital ship anchored in the St. Johns River at Jacksonville. Others were located at Ocala, Tallahassee, Pensacola and Melbourne. The Melbourne station was closed only after the Korean War. Splendid results were obtained, resulting in a considerable decrease in venereal disease in the state.

DDT Spraying in Homes?

The brand new (at that time) insecticide, DDT, developed and produced in great quantities during World War II for protection of the soldiers in tropical warfare, was available in bulk immediately after the war, and was seized upon by public health authorities as a means of eradicating the malaria-carrying

mosquito, *Anopheles quadrimaculatus*. A vast campaign, using unemployed veterans and surplus Army portable spraying tanks, was undertaken to spray every home and building with the new material, which was relatively harmless to humans, and to which mosquitoes, roaches, fleas and other insects were then not immune. Housewives were asked to get their dishes out of the cupboards and covered, so that the sprayers might come and spray the entire house. Since this mosquito was known to rest on the interior walls of houses between flights in search of a blood meal, it was rightly thought that the DDT, dried on the walls and other surfaces, would not only rid the community of the infected mosquitoes, but of other nuisance insects as well.

The Pit Privy Program?

Among the quickly devised "make work" programs (WPA) of the early days of the Roosevelt administration was one which was of inestimable value to the people of Florida — the sanitary pit privy program. In essence this was a project to provide work for carpenters, masons and sanitarians, and give a householder a sanitary pit privy for merely the cost of the materials used in construction. Any citizen who would agree to pay those costs could have a pit privy on a concrete foundation put up on his lot. Thousands of these new facilities were constructed, dotting the land with their bright new look and contrasting sharply with the dinginess of the unpainted houses they served. The project gave a hefty boost to the fight against hookworm, dysentery, typhoid and other diseases caused by unsanitary conditions, and provided much needed work for unemployed artisans.

Hansen's Disease (Leprosy)?

In Biblical times the leper was required to cry out "unclean, unclean" when approached, and even carry a light at night to warn people away. Down through the ages the fear of leprosy, or Hansen's Disease, as it is now called, has persisted, probably because of the unsightliness of a few of its mutilated victims.

The control of leprosy is not a program of the State Board of Health. The disease is so rare that only four cases have been seen in Florida in the past five years. Many an experienced physician has never seen a victim of the disease.

But leprosy, a chronic infectious disease which creates skin lesions, ulcers, patches without sensation and deformity of the

digits, did exist in the state to the extent that a report on it was made by the state's epidemiologist as late as 1950. At that time it was found to exist in cases totalling a few dozen, mostly in Dade, Monroe and Hillsborough Counties. Its incidence was somewhat greater among nonwhites than among whites.

There is no way known to medicine to immunize humans against the disease, but there is a treatment available which can arrest the disease. Those found to be inflicted with leprosy should be removed from contact with others until danger of infection has passed. (Incidentally, it is much less infectious than tuberculosis.) The big problem really is social since many people are afraid of a person who has once had this disease. Returning a sufferer from Hansen's Disease to society requires orientation of neighbors, employers and family. The U. S. Public Health Service operates the nation's only leprosarium at Carville, Louisiana and persons inflicted with leprosy from any state may go there for treatment without cost.

Typhus Fever?

Because the fleas that carry typhus fever are in turn carried about by rats, the control of rats has long been a concern of public health agencies even though typhus is no longer a public health problem in Florida. Rat-proofing of buildings, poisoning of rats and the education of the public in these activities are the methods used commonly in typhus control. In a few counties and cities, *warfarin*, an effective rat poison is either given to householders who ask for it, or spread around their premises on request. In a few parts of the state county employes will do the actual work of building rat-proof barriers, charging the householder only for the materials used. These barriers usually consist of metal screens cemented into air passages in foundations or under floors.

Sound advice and consultation on rat control may be had from your County Health Department.

Quarantine Signs?

The practice of quarantine has passed out of use in the case of persons with contagious diseases. Such persons are rarely kept at home any more, (they are isolated in a hospital) and when they are, modern sanitary practices are such that the need for

the sign placed on the door of the residence, as it was years ago by public health authorities, forbidding entry and exit, is not needed.

Today the word "quarantine" bears only the connotation of ship inspection (by the U. S. Public Health Service) when entering port. This is an old practice, going back to the days when the only way known to stop the spread of an epidemic was to prevent its being carried into a new area by caravans and ship crews and passengers. Quarantine regulations were then vigorously enforced — in fact, they still are at ports and airports, as travelers well know. The Florida State Board of Health took over the job of enforcing quarantine at state ports as soon as it was organized. Ships were required to anchor in the harbor and wait there until a physician had examined crew and passengers, and the ship itself. Diseases most feared were yellow fever, dengue fever, smallpox, cholera and bubonic plague.

Glanders?

Glanders was a disease of horses, transmissible to man, and usually fatal in man. It practically disappeared when the automobile took over and horses were no longer crowded in urban stables close to human habitations. It was once a serious health problem in Florida, however, and the need for its control was the cause for the employment of 23 veterinarians by the State Board of Health as late as 1917. Earlier, during the Spanish-American War, epidemics of glanders occurred in Jacksonville and Tampa, where men and horses were crowded together awaiting embarkation for Cuba. Though yellow fever now receives the most publicity as the cause for the creation of the State Board of Health, glanders was one of the serious problems mentioned by the governor in his call for such action. Incidentally, the well-remembered public watering trough, so enthusiastically endorsed by humane groups sympathetic to the thirsty horse, is now known by veterinarians to have been one of the causes of the spread of this disease.

Below are found some of the causes of death as shown on death certificates on file in the Bureau of Vital Statistics, Florida State Board of Health:

"Went to bed feeling well but woke up dead."

"Died suddenly at the age of 103. To this time he bid fair to live to a ripe old age."

"Deceased had never been fatally sick."

"Don't know, died without the aid of a physician."

"Deceased died from blood poisoning, caused by a broken ankle, which is remarkable since his automobile struck him between the lamp and the radiator."

"Blow on head with axe. Contributory cause — another man's wife."

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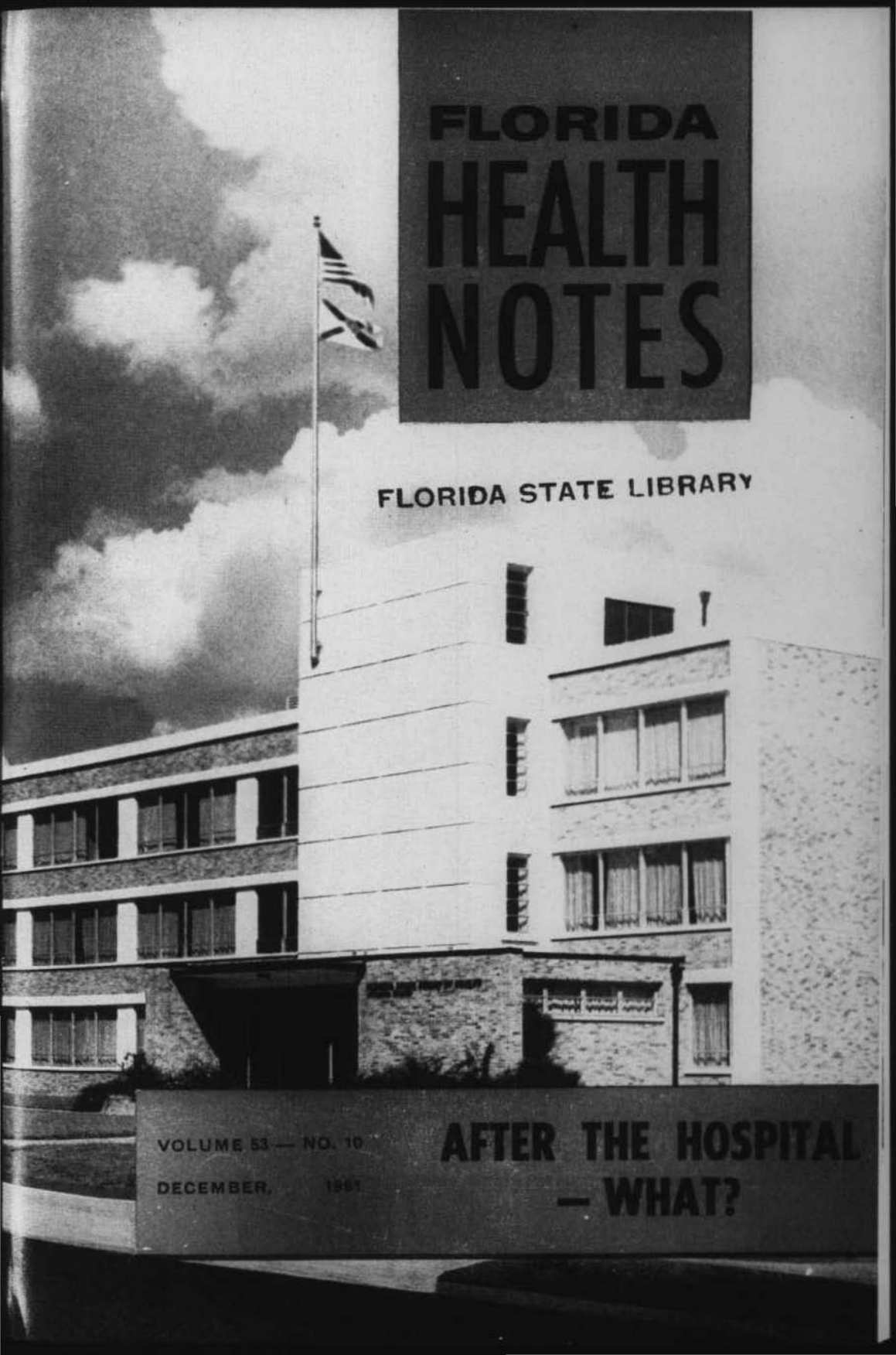
All counties in Florida have organized County Health Departments

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DECEMBER, 1961
AFTER THE HOSPITAL
— WHAT?


INCOMPETENCY 34 RECORD
INCOMPETENCY 33 RECORD
INCOMPETENCY 32 RECORD
INCOMPETENCY 31 RECORD
INCOMPETENCY 30
In the Court of the County Judge,
in and for Hillsborough County,
State of Florida.
Application of Incompetency
ORDER ADJUDGING INCOMPETENCY
DONE AND ORDERED in Tampa, Florida.
/s/ William C. Brandon
County Judge
September 3, 19 51.

AFTER THE HOSPITAL — WHAT?

When we speak of a person as being "mentally ill" we think of people drawn within themselves, sitting quietly, suspiciously viewing those around them, or even under restraint to prevent violence to others or harm to themselves. The truth is that only a very small percentage of the mentally ill require any sort of restraint. But there is far more to hospitalizing the mentally ill person than just putting him in an institution for an indefinite stay. The goal of the hospital is to restore the patient to health as quickly as possible. The goal of the community should be to help restore the patient to his useful place in society — family, friends, work and leisure time activities. For all the good that is done in the hospital may be undone if, upon his return, he is not accepted by his family members or cannot find work.

The Florida State Board of Health and County Health Departments work constantly to keep patients out of mental hospitals. However, when a patient is committed for treatment the court immediately advises (in some areas) state and voluntary agencies who have joined forces to see that the patient and his family get every assistance he may need to restore him to his former life. For example, a group of agencies in the Tampa area is made up of 33 members and powerful machinery is set in motion to prepare for the day the patient returns to the community from whence he came. (For a description of this particular set-up, see page 226).

The Florida State Board of Health and County Health Departments are a part of this machinery. This issue of *Florida Health Notes* is intended to show, by means of a picture story, what is done to assist a returned mental patient and his family after weeks, months or years of treatment in a state institution. Naturally, we have used a model to portray our patient and some of those associated with him; however, the situation is real enough and could very easily be duplicated in many counties in Florida today.

FLORIDA HEALTH NOTES

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A psychiatrist (seated) on the staff of a hospital, has reviewed the patient's record. A staff conference has been held with a number of the hospital staff participating. The decision has been reached that the patient is ready to return to his home and family, and that he should be able to make a living.

The patient has been notified of the decision and here is shown telling the psychiatrist goodbye.

The hospital will now notify the County Health Department, who will then set up a system of follow-up checks so that he can be helped with problems that arise that might cause a relapse and his return to the institution.

Before leaving the hospital the patient also had a visit with the psychiatric social worker. Here his home situation, future prospects for work, need for welfare assistance or the necessity for vocational rehabilitation are discussed with him by the social worker who, in turn, adds her recommendations to those of the medical staff. These are then forwarded to the state and voluntary agencies who will be working with the patient when he is returned, such as the County Health Department, State Department of Welfare, etc.





The wife welcomes home her husband -- a happy day for both. Before his return the wife has probably been visited by representatives of the agencies who will be helping the returnee. His arrival comes after as much family preparation as possible. They have been advised on how to treat the returnee, when and how to arrange for follow-up treatments at the clinic as recommended by the state hospital, what he should do about medications he will be asked to continue, who to call if assistance is needed, etc.



Soon after his arrival home the returnee and his family are visited by the public health nurse. At this time the nurse discusses with the ex-patient and his family the need for continuing to use the medicine prescribed by the hospital, advising him of the clinic dates and times he should report. Many details concerning the patient's activities since he returned come out in this conversation in the home. The nurse, experienced in gathering bits of information about the patient and his problems, returns to the office and makes a full report to the Mental Health Resource Council in which she might include her recommendations for future care of the patient.

The Professional Services Committee assembles and summarizes all materials and information regarding the patient it has been able to gather and decides what community agencies and facilities might be called upon to assist this ex-patient and his family. The Committee is made up of (in this particular case) a psychiatrist, a clinical psychologist, a social worker, a nurse with a public health background and a rehabilitation counselor. Frequently the nurse is the follow-up agent. Periodic reports are made back to the Council and if a crisis results an immediate meeting may be held to determine what best method would solve the problems. Normally the patient's condition and his adaptation to his home life are reviewed at the end of six months and one year.



Sometimes the returnee may not be able to return to his former line of work or at his old place of employment. Here the rehabilitation counselor is grading the returnee on an aptitude test (which is used as a part of the total vocational evaluation of the patient) so he may determine what new kind of work he is best fitted for.





When the tests have been completed and the counselor, in conference with others on his staff, has decided what type of work the returnee may best fit into, he goes to a prospective employer and discusses the ex-patient's needs and abilities. In this instance the employer believes he can use the returnee in his organization and accepts him on the recommendation of the counselor.

Meanwhile, the patient is carefully observing the schedule of clinical visits set up when he first returned home. Here the clinic nurse is again stressing the need for continuing his medications. (Of course, all ex-patients do not have to take them).





Happily at work as a photostat machine operator the returnee continues to show improvement. His understanding employer makes periodic reports to the rehabilitation counselor. In this case the patient has responded very well to his new work and to his fellow employees and the progress reports are very encouraging.



At the end of a year's trial visit the ex-patient requests restoration of his civil rights through the County Judge's office. Without this court action he cannot vote, sell or buy property, get a driver's license, etc. Before his rights may be restored he must be examined by a psychiatrist who then tenders a certificate of competency to the judge. The returnee pays the legal fee, about $5.00, and the day the judge gives him his certificate of competency and a warm handshake is probably one of the happiest days of his life.

IN RE: RESTORATION OF THE SANITY
OF John Doe

In the County Judge's Court
of Hillsborough County,
Florida.
No. _____

ORDER OF RESTORATION OF SANITY

The cause having come on for final hearing pursuant to Section 394.22, (10)(b)(1), Florida Statutes, after due notice, upon the petition for and the said John Doe having previously appeared before the court, and the Court having heard all the testimony and arguments and having received all the evidence submitted, it now appears to the Court that the above said party is mentally and physically competent and is capable of managing his or her own affairs. That the Court being fully advised in the premises, and on the testimony, upon consideration thereof

CONSIDERED, ORDERED, ADJUDGED AND DECREED BY THE COURT AS FOLLOWS:

1. That the said John Doe is of sound mind, rationality and is capable of managing his or her own affairs.

2. That the said John Doe be and he is in the same hereby ordered restored to his or her personal liberty.

3. That Robert Smith, the guardian, committee or custodian (as the case may be), of the person and estate of the said John Doe be and is hereby required within thirty (30) days, or such other time as the Court may fix, to render full settlement with the said John Doe, who is restored to the status of judicial competency of all his or her property in their hands, custody or control under penalty or contempt of court and punishment thereof.

Done and ordered in chambers at Tampa, Hillsborough County, Florida, this First day of December, A.D. 61.

/s/ William C. Brewster (Seal)
County Judge

I, William C. Brewster, County Judge in and for Hillsborough County, State of Florida, do hereby certify that I have this First day of December, A.D. 61, forwarded to the Superintendent of the Hospital, under the Division of Mental Health from which the above named person was released (or otherwise as provided by law) a certified copy of the above order.

/s/ William C. Brewster (Seal)
County Judge

The happiness of this family has been maintained because of the close association of more than thirty agencies (both state and voluntary) in this particular county who are intensely interested in the welfare of this one man (and many others like him) and his family. Even though he is apparently a well man and happy in his work the facilities of all the agencies are still available to him at any time in the future when it appears their services are needed.



AN EXAMPLE OF WHAT ONE COMMUNITY IS DOING FOR PATIENTS DISCHARGED FROM MENTAL HOSPITALS

The time-honored adage "In unity there is strength" is well typified by the *Mental Health Resource Council* in Hillsborough County. It signifies the successful cooperation of 33 agencies to provide a maximum of assistance to returned patients and their families without duplication of effort.

In 1956 the District Supervisor of the Vocational Rehabilitation Service of the State Department of Education invited representatives from the Hillsborough County Health Department, State Department of Public Welfare, Family Service Association, Community Coordinating Council, Guidance Center, Pupil Welfare of County Schools, County Judge's Office, psychiatrists in private practice and from Florida State Hospitals to meet together to find out how the community could aid those mental hospital patients returning to the area. As a result of the meeting, the various agencies decided to form a community committee to evolve a plan by which the services of each agency could be directed through the pooling and coordinating of information. Out of this eventually came a group called the Mental Health Resource Council.

Initially, major financial support was secured through a demonstration research grant from the National Institute of Mental Health providing part of the salaries, office furniture and consultation fees. Though not recorded, audited or reported the largest segment of support has been and is the time contributed by professional persons within the community — those in private enterprise, as well as from voluntary and tax-supported agencies.

The nucleus of the program is the Professional Services Committee, which is composed of a psychiatrist, psychologist, nurse, rehabilitation counselor and social worker. The Medical Director (public health) serves as chairman (with case presentation by the Assistant Director — phsychiatric social worker).

When a patient is committed to a state mental hospital, the County Judge's office notifies the Council. The Council then checks on the welfare of the family to see that, if needed, their services are made available to the family while the patient is hospitalized.

When the patient is subsequently released on a trial home visit a member of the Council, usually a public health nurse, makes a visit to the home and talks with the patient and his family. She reports back to the Council, making her recommendations at the time. Her report is combined with other available information and presented to the Professional Services Committee. After study, this Committee makes its recommendations to the appropriate community facility whenever possible.

In 1960 the Committee considered 141 cases of which 107 were new and 34 were up for rediscussion. A total of 179 referrals were made to community resources and there were nine cases in which no referrals were made. The staff had 1062 consultations with agencies about patients, 114 with relatives, 99 with other individuals concerning the patient and 35 with patients themselves, making a grand total of 1410.

There is research underway to measure the effectiveness of this coordinated community program in such areas as employment, economic adjustment, living arrangements, social participation, hospital and medical care, community services received and restoration of civil rights.

Many professional people believe that evaluation of this Council's work thus far will show that the close cooperation and careful attention given by the agencies comprising the Council to the needs of the returned patients have made for a quicker, easier, happier readjustment to their normal life in the community.

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